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ANNUAL REPORT
OF THE
PUBLIC WORKS DEPARTMENT
FOR THE
YEAR ENDING DECEMBER 31, 1944.

BOSTON, January 2, 1945.

HON. MAURICE J. TOBIN,
Mayor of Boston.

DEAR MR. MAYOR,—In compliance with the provisions of section 24 of chapter 3 of the Revised Ordinances of 1925, I respectfully submit the Annual Report of the Public Works Department for the year ending December 31, 1944.

Yours respectfully,

WILLIAM T. MORRISSEY,
Commissioner of Public Works.

The records of the department show that there are now 2,309 persons eligible for employment in the several divisions, and of that number 2,174 were upon the January, 1945, pay rolls.

Grade and Number of Employees.

TITLE.	SERVICES.								Total.
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	
Commissioner.....	1								1
Division engineers.....		1	1	1		1			5
Engineer, chief.....		1							1
Assistant engineers (civil).....	18	31		1	9			5	64
Draftsmen.....								1	1
Instrumentmen.....		11	14			3		2	30
Rodmen.....		6	1			1			8
Blueprinters.....			4						4
Superintendents.....		2							2
Supervisors.....	1	1		1		1			4
General foreman.....								1	1
Foremen.....		13	8	17	13	1		1	60
Chief inspectors.....		1	2					1	4
Inspectors-subforemen.....		52	23	45	24	2		2	164
Executive secretaries.....	1							1	2
Chief clerks.....		1	1					2	4
Executive clerks.....		1	1			1		2	5
Clerks-stenographers.....	8	27	10	5	1	3	1	6	50
Telephone operators.....			1					1	2
Cashiers and assistants.....				1			1	2	6
Storekeepers.....				1			1		3
Patternmaker.....								1	1
Veterinarian-medical inspectors.....					2				2
Chemist and assistant.....			1						1
Cement testers and assistants.....				2					2
Captains.....							2		2
Quartermaster-pilots.....							4		4
Deckhands.....							8		8
Dispatchers.....			1						1
<i>Carried forward.....</i>	11	138	98	71	41	22	17	11	94
									503

Paster, City messenger

Grade and Number of Employees.—Concluded.

TITLE.	SERVICES.										Total.
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.		
Brought forward.....	11	138	98	71	41	22	17	11	94	503	
Matrons.....								4			4
Engineers (steam).....	7	5					4				16
Oilers.....			8				5				13
Firemen.....	1	4					11				16
Gatemen-Tollmen-guards.....		5					12	33			50
Sergeant-Tollmen-guards.....								4			4
Gatemen-filth hoisters.....		5									5
Meter readers.....									34		34
Drawtenders and assistants.....	1					144					144
Chief and electricians.....		2						13			15
Master mechanics.....	3		1				1		4		9
Auto mechanics-repairers.....	18	3		1							22
Blacksmiths-horseshoers.....	5	1	11						1		18
Carpenters-joiners.....	3	4	1			9	2				19
Harnessmaker and assistant.....			1								1
Machinists.....		3				2	3	3	7		18
Painters.....	9		6		1	1					17
Pavers.....	27				1						28
Plumbers-pipefitters.....							3		136		139
Boilermakers.....			1					1			2
Riggers-roofers.....							2				2
Sewer cleaners-flushers.....		27									27
Catch-basins cleaning machine operators.....			6								6
Stonecutters-brick masons.....	4	3	1						1		9
Wheelwrights and assistants.....			4								4
Head chauffeurs.....	5										5
Chauffeurs, etc.....	72	25	59	91	4		13	40		304	
Working foremen, laborers, etc.....	6	3		1	3				1		14
Laborers, teamsters, etc.....	177	44	205	291	6	6	8	58		795	
Wharfinger.....			1								1
Yardmen and yardmasters.....	6	3	2	2	1				3		17
Constables.....	9	1		28				10		48	
Totals.....	11	490	251	363	455	193	72	85	389	2,309	

Number of Employees Actually Employed January 1, 1944, and
January 1, 1945.

	Tunnel.	Central Office.	Bridge.	Ferry.	Water.	Paving and Lighting.	Sanitary.	Street Cleaning.	Sewer.	Total.
January 1, 1944.....	76	9	175	69	371	438	344	376	230	2,088
January 1, 1945.....	80	11	185	70	382	470	357	379	240	2,174

Total Eligible Force.

January 1, 1944.....	84	10	186	75	397	471	360	393	256	2,232
January 1, 1945.....	85	11	193	72	389	490	363	455	251	2,309

Appointments, Transfers, Resignations, Retirements, Deaths, Etc., of
Employees.

Died.	Retired.	Transferred to Other Departments.	Transferred to Other Services.	Discharged.	Resigned.	January 11, 1944.	SERVICES, 1944-1945.	January 8, 1945.	Transferred from Other Services.	Transferred from Other Departments.	Reinstated.	Appointed.
....	....	....	....	....	....	10	Central Office.....	11	1	....	....	....
4	1	2	3	2	2	186	Bridge.....	193	5	....	....	14
3	3	....	....	....	....	75	Ferry.....	72	....	....	....	3
7	10	1	12	1	9	471	Paving and Lighting.....	490	13	4	5	37
7	11	....	19	....	6	360	Sanitary.....	363	9	....	3	34
6	5	....	10	1	15	393	Street Cleaning.....	455	19	1	3	76
4	7	....	3	....	1	256	Sewer.....	251	4	1	4	1
3	10	2	3	2	4	397	Water.....	389	....	1	1	14
....	1	1	3	....	5	84	Tunnel.....	85	2	1	3	5
34	48	6	53	4	42	2,232	Totals.....	2,309	53	8	19	184

**MAINTENANCE APPROPRIATIONS AND
EXPENDITURES.**

DIVISION OR SERVICE.	Total Appropriations, Including Transfers.	Expenditures.	Unexpended Balance.
Central Office	\$31,437 00	\$30,615 83	\$821 17
Bridge Service	419,816 12	418,837 50	978 62
Ferry Service	219,584 32	215,406 69	4,177 63
Tunnel Service	265,290 00	260,220 64	5,069 36
Lighting Service	962,698 00	961,732 22	965 78
Paving Service	915,878 94	911,355 37	4,523 57
Sanitary Division	3,108,071 98	3,093,460 32	14,611 66
Sewer Division	356,039 00	349,291 87	6,747 13
Water Division	1,095,891 00	1,041,897 85	53,993 15
Totals	\$7,374,706 36	\$7,282,818 29	\$91,888 07

EXPENDITURES FROM SPECIAL APPROPRIATIONS, ETC.

Bridges, Repairs, etc. (revenue)	\$43,641 16
Ferry Improvements (revenue)	27,076 95
Public Ways, Construction of (revenue)	140,083 48
Public Ways, Construction of (non-revenue)	1,052,679 93
Sidewalks, Construction and Reconstruction of	50,525 83
Bridges, Construction of (revenue)	84,317 91
Bridges, Construction of (non-revenue)	84,317 66
Snow Removal	219,376 62
Sewerage Works (non-revenue)	322,628 83
Total	\$2,024,648 37

REVENUE.

On Account of Public Works Department.

Central Office:		
Sale of plans, etc		\$962 00
Bridge Service:		
Clerical Service	\$250 00	
Chelsea North Bridge	19,792 05	
Chelsea South Bridge	98 00	
Northern Avenue Bridge	11 00	
Meridian Street Bridge	22,081 31	
Rents	2,575 00	
Refunds	240 56	

		45,046 92
Ferry Service:		
Tolls	\$9,921 12	
Rents	125 00	
Cleaning telephone booths	26 00	
Commission on telephones	28 50	
Junk	47 34	

		10,147 96
Sumner Tunnel:		
Tolls	\$1,288,090 00	
From State	100,000 00	

		1,388,090 00
Lighting Service:		
Damage to posts		240 00
Paving Service:		
From assessments on abutters for cost of laying sidewalks in front of their premises, including material for same:		
Assessments added to taxes	\$4,127 13	
Assessments paid in advance	649 89	
Unapportioned assessments	106 89	
Permits	10,108 27	
Sale of materials, etc.	301 68	
Labor and materials furnished	172 12	
Street openings account	4,860 00	
Junk	127 33	
Rents of signs	25 00	
Damage to property	873 00	
Land taking, Marginal street	1,785 28	

		23,136 59
Sewer Service:		
Disposal of sewage	\$19,450 00	
Labor and materials furnished	284 10	
Entrance fees	1,153 08	
Junk	132 32	
Rent	50 00	

		21,069 50
<i>Carried forward</i>		\$1,488,692 97

<i>Brought forward</i>		\$1,488,692 97
Sewerage Works (Assessments under chapter 450, Acts of 1899):		
Added to taxes	\$13,891 62	
Paid in advance	3,592 61	
Unapportioned	1,442 58	
		<u>18,926 81</u>
Sanitary Service:		
Collection of commercial waste	\$12,845 36	
Sale of junk, etc.	211 34	
Sale of manure	154 02	
Sale of horses	50 00	
Damage to property	100 00	
		<u>13,360 72</u>
Water Service:		
Water rates	\$5,198,541 07	
Water added to taxes	221,452 30	
Tax titles	51,546 81	
Service pipes for new takers, extending, repairing, etc.	2,921 89	
Fees on overdue rates	133 00	
Sale of junk, etc.	4,125 78	
Elevator and pipe connections	1,947 73	
Damage to property	1,112 91	
Relocating hydrants	100 00	
Labor and materials	1 62	
Weighing fees, etc.	447 53	
Reimbursement	28,163 96	
Deposit account	16,905 84	
Installing gates, etc.	485 75	
		<u>5,476,339 38</u>
Grand Total		<u>\$6,997,319 88</u>

PART II.
APPENDICES.

APPENDIX A.

REPORT OF THE DIVISION ENGINEER OF
THE BRIDGE AND FERRY DIVISION.

BOSTON, January 2, 1945.

To the Commissioner of Public Works.

DEAR SIR,—I respectfully submit the following report of the income, expenditures and operation of the Bridge and Ferry Division for the year ending December 31, 1944. The appropriations and expenditures of the division were as follows:

Bridge Service.

Regular appropriation, 1944	\$414,165 10
Transfers to	5,651 02
	<hr/>
	\$419,816 12
Expenditures for 1944	418,837 50
	<hr/>
Unexpended balance	\$978 62
	<hr/>

Bridges, Repairs, Etc.

Balance from 1943	\$24,640 68
1944 appropriation	25,000 00
	<hr/>
Transfers to	\$49,630 68
	3,900 00
	<hr/>
Expenditures, 1944	\$53,530 68
	43,641 16
	<hr/>
Unexpended balance, December 31, 1944 . . .	\$9,889 52
	<hr/>

Bridges, Construction of.

Balance from 1943	\$129,836 57
Expenditures, 1944	84,317 66
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Unexpended balance, December 31, 1944 . . .	\$45,518 91
	<hr/>

Civilian Defense Activities.

Balance from 1943	\$1,653 48
Expenditures, 1944	492 75
Unexpended balance, December 31, 1944	<u>\$1,160 73</u>

Ferry Service.

1944 appropriation	\$225,604 32
Transferred from	\$7,000 00
Transferred to	980 00
Total transferred from	<u>6,020 00</u>
Total amount available	\$219,584 32
Expenditure	215,406 69
Balance	<u>\$4,177 63</u>

Ferry Improvements, Etc.

Balance from 1943	\$15,392 56
1944 appropriation	<u>20,000 00</u>
Transferred from	\$35,392 56
Total amount available	4,680 00
Expenditure	\$30,712 56
Carried forward to 1945	27,076 95
	<u>\$3,635 61</u>

Sumner Traffic Tunnel.

Regular appropriation, 1944	\$265,290 00
Expenditures, 1944	260,220 64
Balance	<u>\$5,069 36</u>

The foregoing does not include certain expenditures for construction work for other divisions and departments, which work was supervised by the engineers of this division.

Under orders of the Department of Public Utilities, Commonwealth of Massachusetts, schedules of tolls and charges for the use of the Sumner Traffic Tunnel, between Boston Proper and East Boston, were approved, covering the year 1944.

The city has been operating only one ferry, the so-called "South Ferry," since early in 1933, with the

Boston terminus at Eastern avenue and the East Boston terminus at Lewis street.

The more important works undertaken during the past year in the Bridge and Ferry Division were repairs to the draw fender pier of Chelsea Bridge North; repairs to westerly sidewalk, span 1, of Charlestown Bridge; making wash borings at Meridian Street Bridge; grouting the abutments and piers of Granite Avenue Bridge; construction work on the Malden Bridge, over the Mystic river; repairing Winthrop Bridge; resurfacing in Sumner Tunnel with granite block, Ultimite block and white center marker blocks; repairs to steel ferry bridge, etc., South Ferry, north slip, Boston side; repairs to the south fender, south slip, South Ferry, Boston side; resurfacing with granite block, Ultimite block, etc., Sumner Tunnel; repairing hull, etc., ferryboat "Charles C. Donoghue"; repairs to steel ferry bridge, South Ferry, south slip, Boston side; repairs to wharf at Spectacle Island; removing snow in area No. 2 and East Boston and removing snow in area No. 3 and Roxbury.

BRIDGE SERVICE.

Repairs to Westerly Sidewalk, Span 1, Charlestown Bridge.

Due to corrosion the steel sidewalk brackets and fascia of the sidewalk were found to be in a very bad condition, and on June 26, 1944, the Mayor approved a contract with A. Orlando, Inc., the lowest bidder, to make necessary repairs. Work started on the contract on June 5, 1944, and will be completed about June, 1945.

Repairs to Draw Fender Pier of Chelsea Bridge North.

Due to failures of the draw fender pier, downstream end, adjacent to the portion repaired in 1943, it was necessary to rebuild the walkway and face piles for the full length.

On February 15, 1944, the Mayor approved a contract with W. H. Ellis & Son Company, the lowest bidder, to remove the damaged material, drive new piles and spurs and connect the new work with the old, etc., necessary to complete the repairs. Work started on the contract on April 18, 1944, and was completed on July 18, 1944, at a cost of \$24,448.18.

Construction Work on the Malden Bridge, over the Mystic River.

Under a contract entered into in 1942 between the city and A. D. Daddario, for general construction work on the Malden Bridge, the contractor, due to war conditions and his inability to obtain the necessary materials, has been compelled to allow the work to run into its third year.

The steel Irving type floor was furnished and placed by the end of 1942, on the tower and draw spans.

Work commenced on the approach roadways in May, 1944, and continued to the end of the year. Total work done amounted to \$96,790.40. It is expected that the work will be completed early in 1945.

Making Wash Borings at Meridian Street Bridge.

Due to the necessity of rebuilding the Meridian Street Bridge to provide a 175-foot clear waterway and to obtain necessary data for preliminary studies and plans, the Mayor approved a contract with the Raymond Concrete Pile Company, the lowest bidder, to make a series of wash borings on both sides of the bridge.

Work started on the contract on June 15, 1944, and was completed July 14, 1944, at a cost of \$1,961.95.

Summer Street Bridge, over Reserved Channel.

A contract with Marinucci Brothers & Co. for construction work on the Summer Street Bridge, over the Reserved Channel, was completed September 29, 1943.

At the close of the fiscal year the contractor had been paid the sum of \$154,814.47. On account of a claim by the contractor against the city, the amount of \$3,790.79 is still being retained by the city.

Repairing Winthrop Bridge.

On December 14, 1943, the Mayor of Boston and the chairman of the Board of Selectmen of the town of Winthrop approved a contract with Baker & Co., the lowest bidder, to remove the existing roadway pavement, repair the 5-inch Y. P. deck, sidewalks, stringers, etc., as necessary and to place new 4-inch Y. P. T. & G.

planking on the present 5-inch deck and after waterproofing the roadway with hot asphalt place a 2-inch wood wearing surface.

Work commenced December 27, 1943, and was completed April 19, 1944, at a cost of \$13,428.79. Sixty per cent of the cost was paid by the City of Boston and 40 per cent by the town of Winthrop.

GRANITE AVENUE BRIDGE COMMISSION.

Grouting the Abutments and Piers of Granite Avenue Bridge.

Due to the washing out of the joints in the masonry piers and abutments of the Granite Avenue Bridge, and to prevent further settlement, the Granite Avenue Bridge Commission approved a contract with Marinucci Brothers & Co., the second lowest bidder, to fill all voids and point the masonry by the "Gunite" process.

Work commenced on August 28, 1944, and was completed September 29, 1944, at a cost of \$6,121.80. One half of this cost was paid by the County of Suffolk and one half by the town of Milton.

SANITARY DIVISION.

Repairs to Wharf at Spectacle Island, Boston Harbor.

Several times since this wharf was built it has been repaired and strengthened but the condition of the outer half of the wharf was so bad that it was necessary to rebuild this portion.

It was decided that a wharf 10 feet wide instead of the present 20-foot wharf, would serve the purpose.

This division designed and supervised the construction of the new section of wharf.

A contract was awarded to the James B. Rendle Company, approved by the Mayor June 7, 1944, for this rebuilding. Work started June 30, 1944, and was completed August 14, 1944, at a cost of \$11,825.30.

Removing Snow and Ice, Areas Nos. 2 and 3.

A contract was awarded to Walter Reed Corporation, approved by the Mayor December 31, 1943, for removing snow in snow area No. 2. The work was completed February 13, 1944, at a cost of \$2,369.10.

A contract was awarded to Baker & Co., approved by the Mayor December 31, 1943, for removing snow in snow area No. 3. The work was completed February 13, 1944, at a cost of \$2,509.42.

A contract was awarded to Walter Reed Corporation, approved by the Mayor December 28, 1944, for removing snow in snow area No. 2. No payment was made under this contract in 1944.

A contract was awarded to Baker & Co., approved by the Mayor December 28, 1944, for removing snow in snow area No. 3. No payment was made under this contract in 1944.

Day Labor Force.

The day labor force patched and replaced deck sheathing, headers and sidewalk planking on the various bridges; repaired platforms, refastened treads, cleaned and painted drawhouses and shelter houses; made repairs to drawhouses and controller houses; added to and deducted from counterweights; repaired steps; removed snow and ice from bridges and sanded same; repaired piers; painted fences and gates; did general carpenter work and painting and made mechanical repairs, etc., repaired wood block paving, refastened treads on various bridges; repaired and rebuilt gates at various bridges; repaired floats; built and repaired sand boxes; rebuilt coal bins at various bridges; repaired boats; set glass at various drawhouses; made miscellaneous small repairs at various bridges, etc.

The maintenance force cleaned the bridge sidewalks and steps in the intown areas of snow and other refuse during the year. Electrical and machinery maintenance was taken care of by the electricians and machinists.

Another duty of the division during the winter months was the supervising and inspecting of snow loading and removal from snow areas Nos. 2 and 3, in common with other divisions of the department. This work was done under contract.

In the course of the year part of the activities of the office force was taken up in work for other divisions and departments of the city. While these efforts, spread over the entire period, did not require a considerable amount of time, the nature of the work was of an advisory and investigating nature.

FERRY SERVICE.

The following ferryboats are in commission:

NAME.	When Built.	Length.	Gross Tons.
Charles C. Donoghue.....	1926	174 feet, 4 inches	756.77
Daniel A. MacCormack.....	1926	174 " 4 "	756.77
Ralph J. Palumbo.....	1930	174 " 4 "	779

All these boats are of the propeller type and are all steel boats.

The work of this service for the year consisted of the following:

FERRIES.

Ferryboat "Charles C. Donoghue."

On December 20, 1945, formally advertised bids were called for to make general repairs to this boat which had been out of commission for over one year due to the utter failure of the main condenser. At that time no bids were received from any repair yard on account of press of work required by the armed services.

In order to insure at least a one boat service on the ferry route, steps were taken at once to attempt completing the necessary repairs as soon as possible, since after January 2, 1944, the only boat on the run was the "Daniel A. MacCormack," the ship's papers of which would expire on June 9, 1944.

After authority was granted by the Mayor to expend up to \$23,855 to make the annual repairs, the boat was delivered to the Quincy Dry Dock and Yacht Corporation, which finally had been able to arrange its government work so as to take over the "Donoghue."

On April 17 work stated under a contract awarded without advertising to make the routine repairs which included painting, hull work and machinery repairs. At this time the contractor installed the whole of the water end of the jet condenser, which was furnished by the city; this work included the cutting in of an access opening in the monitor and fitting a removable section in place. Work under this contract was completed on May 24, 1944, at a cost of \$21,423.90.

Since June 9, ferry operation has again been reduced to a single boat since the "Palumbo" and the "MacCormack" have been decommissioned on account of the expiring of the United States ship's papers under which every vessel of United States registration operates. In event of accident or unpredictable machinery failure to the one boat in commission, ferry service ceases. In view of the fact that the city has three good boats, it is but reasonable to keep at least two boats in commission with Federal ship's papers at all times to avoid an extended stoppage of the service.

*Repairs to Steel Ferry Bridge, South Ferry, North Slip,
Boston Side.*

A contract was awarded to J. A. Singarella Company, approved by the Mayor November 26, 1943, for necessary repairs to the steel work of the north drop, South Ferry, Boston side.

Work started November 29, 1943, but very little work was done under the contract until January of 1944. Work was completed January 22, 1944, at a cost of \$4,220.90.

*Repairs to Steel Ferry Bridge, South Ferry, South Slip,
Boston Side.*

A contract was awarded to Frederick W. Byron, approved by the Mayor June 13, 1944, for necessary repairs to the steel work of the south drop, South Ferry, Boston side. Work started June 15, 1944, and was completed September 27, 1944, at a cost of \$14,140.42.

*Repairs to the South Fender, South Slip, South Ferry,
Boston Side.*

A contract was awarded to the Roy B. Rendle Company, approved by the Mayor December 29, 1943, for rebuilding the outer half of the fender and making minor repairs to the inshore end.

Work started April 10, 1944, and was completed April 26, 1944, at a cost of \$7,411.09.

Department Force.

During the year machinists, carpenters, painters, riggers and electricians, who are included in the personnel

of the Ferry Service, made all repairs possible to the plant to the extent of equipment at their disposal. This work consisted mainly of minor repairs to the machinery on the boats, repairs to ferry bridge machinery, ferry bridge roadways and headhouse repairs in general.

SUMNER TRAFFIC TUNNEL.

Resurfacing the Sumner Tunnel with Granite Block, Ultimate Block and White Center Marker Blocks.

A contract was awarded to the Rufo Construction Company, approved by the Mayor October 19, 1943, for resurfacing the Sumner Tunnel. Work started November 7, 1943, and was completed January 8, 1944, at a cost of \$14,605.00.

Resurfacing the Sumner Tunnel with Granite Block, Ultimate Block, Etc.

Due to the failure of additional areas of the pavement, a contract was awarded to the Rufo Construction Company, approved by the Mayor February 16, 1944, for further resurfacing in the Sumner Tunnel. Work started February 18, 1944, and was completed April 13, 1944, at a cost of \$10,610.50.

Summary of Work During 1944.

1. Personnel.

During the year 1944 three employees entered the armed services of the United States. This makes a total of eleven men who have entered the service.

SUMMARY OF EMPLOYEES, 1944.

Resignations	2
Retirements	1
Transfers	3
Leave of absence	2

Mr. John DeMeulenaer, appointed as Division Engineer of the Bridge, Ferry and Tunnel Service as of December 27, 1944.

2. Vehicular Traffic.

	1940.	1941.	1942.	1943.	1944.
Total.....	6,309,524	7,362,848	6,770,855	5,715,999	6,449,934
Monthly average....	525,793	614,000	564,238	476,000	536,500
Weekly average....	121,337	141,700	130,209	110,000	124,000
Daily average.....	17,293	20,180	18,055	15,650	17,600

3. Garage Service.

	1940.	1941.	1942.	1943.	1944.
Tow jobs.....	189	97	160	104	185

4. *Booth Red Signals.*

	1940.	1941.	1942.	1943.	1944.
Booth, Red On.....	16	6	6	8	4
Total duration.....	113 min.	45 min.	79 min.	255 min.	76 min.

5. *Power.*

	1940.	1941.	1942.	1943.	1944.
Total kilowatts.....	3,091,410	3,177,004	2,912,544	2,183,427	3,422,443
Number of vehicles..	6,309,524	7,362,848	6,770,855	5,715,999	6,449,934

6. *Fires.*

During the past year there was only one fire in the tunnel for a duration of two minutes caused by a defective brake band on a United States Army truck.

7. *Tunnel, General.*

Extensive roadway repairs were undertaken during the past year. This work was started on February 18 and finished April 27, 1944. During this period the tunnel was closed to vehicular traffic from 12.30 a. m. to 5.30 a. m. Tunnel walls are washed two or three times a month as needed. During the past year a total of 5,552 200-watt lamps were used in the relamping of the Tunnel lights. All catch-basins and sump rooms have been cleaned.

8. *Tolls.*

All Army, Navy, Marine Corp and Coast Guard vehicles started paying tolls by a special military ticker for the use of the Tunnel as of March 15, 1944, previous to this time all of these government vehicles passed through the Tunnel free of tolls.

9. *Toll Booths.*

Electric heaters were installed in all toll booths at Boston and East Boston and were completed in November, 1944. These heaters replaced a steam heating system that had proven unsatisfactory.

10. *Automotive Equipment.*

On July 21, 1944, a Ford emergency ambulance was installed at the Tunnel and is subject to calls from outside of the Tunnel in the event of any emergency that might require its use.

11. *Ventilating Fans, Motor, Dampers.*

The twenty-eight motors used in the operation of the ventilating system have been oiled, cleaned and greased as the occasion required. All switches and controllers used in conjunction with these motors have been cleaned and overhauled and adjusted and are in good working order. All damper motors, switches and controls have been cleaned and adjustments were made as needed.

12. *Circuit Breakers, Air Type, Oil Type.*

During the year all circuit breakers have been tested, set and adjusted in order to assure efficient operation.

13. *Transformers, Relays.*

The oil in all transformers has been tested and changed as it was needed. All of the relays have been calibrated, set and adjusted for proper operation.

14. *Toll Registering Equipment.*

All key boxes and toll registers are in good working condition. Monthly and periodic insulation, resistance and pressure tests are made on all treadles.

15. Pumps.

The main harbor pumps and the two portal pumps have been cleaned, overhauled, painted and lubricated. Various changes to pipes and valves were made as needed.

16. Telephone System.

All switchboard relays have been adjusted and set for efficient operation. All defective cords, instruments, coils have been replaced.

17. Storage Batteries.

These emergency power storage batteries are inspected and tested at regular intervals. The telephone storage battery has also been inspected and tested and in good operating condition.

18. Traffic Signal Controls.

All broken glass in the traffic signals replaced as needed. During the past year 353 60-watt lamps were used in the relamping of these units. All traffic signal controls have been repaired and tested, all defective coils and contacts have been replaced.

19. Motor Generators.

All four of the motor generators are in excellent working condition. These machines have been cleaned and painted. The commutators have been undercut, and new brushes installed as required.

Yours respectfully,

JOHN DEMEULENAER,
Division Engineer.

BRIDGE SERVICE.

FINANCIAL STATEMENT FOR 1944.

Expenditures from Maintenance Appropriation.

Boston bridges	\$414,482 43
Boston and Cambridge bridges	4,355 07
	<u>\$418,837 50</u>

Total Expenditures.

From Maintenance Appropriation	\$418,837 50
From Special Appropriations	128,451 57
	<u>\$547,289 07</u>

Expenditures of Boston Bridges.

Administrations

Salaries:

Division Engineer, Acting	\$4,000 00
Supervisor	2,554 29
Engineer and draftsmen	35,207 61
Clerks	5,200 00
Inspectors	2,300 00
Foreman	2,500 00
Veterans' pension	5,294 00
Injured employees	408 50
	<u>\$57,464 40</u>

Printing, postage and stationery	\$1,355 78
Travelling expense	31 20
Engineers' supplies and instruments	50 97
Typewriter and adding machine inspection	51 30
Binding	13 80
Office supplies	37 59
	<u>1,540 64</u>
	<u><u>\$59,005 04</u></u>

Yard and stockroom:

Yard:

Clerk, yardman and watchman,	\$6,888 74
Holidays	1,186 59
Vacations	235 42
Travelling expenses	346 25
Telephone	159 54
Tools, new and repaired	289 27
Repairs in yard and buildings	951 17
Supplies	873 01
Motor Equipment	5,929 32
	<hr/>
	\$16,859 31

Stockroom:

Stock purchased	\$14,730 03
Stock used	12,700 08
	<hr/>
	2,029 95
Increase in stock	<hr/> \$18,889 26

Tidewater Bridges.

BRIDGES.	Drawtenders' Salaries.	Mechanics' Wages.	Material.	Repair Bills.	Supplies.	Totals.
Broadway.....	\$13,381 84	\$2,481 67	\$2,397 38	\$735 98	\$353 41	\$19,350 28
Charlestown.....	26,468 48	2,221 53	687 99	4,640 08	653 95	34,672 03
Chelsea North.....	19,651 26	1,892 28	1,165 63	2,338 38	1,886 11	26,933 66
Chelsea South.....	15,168 03	1,730 48	845 05	338 78	783 04	18,865 38
Chelsea Street.....	20,420 61	1,152 41	234 62	211 62	570 10	22,589 35
Congress Street.....	16,401 15	1,050 95	232 51	225 65	597 46	18,507 72
Dorchester Avenue.....	16,771 05	3,165 38	1,119 00	1,673 93	434 35	23,163 71
Dover Street.....	13,877 49	2,255 36	714 50	570 53	810 46	18,228 34
L Street *.....	16,198 75	725 21	60 46	624 76	444 42	18,053 60
Malden.....	20,139 25	826 88	253 73	300 00	713 46	22,233 32
Meridian Street.....	20,255 65	1,270 98	428 36	3,885 22	454 22	26,294 43
Northern Avenue.....	19,758 58	1,582 66	1,080 38	1,532 13	3,376 50	27,330 25
Summer Street.....	20,058 57	2,931 21	1,416 80	1,021 12	292 68	25,720 43
Warren.....	16,645 90	2,733 44	772 37	1,059 71	424 77	21,636 19
Totals.....	\$255,196 61	\$26,020 48	\$11,408 78	\$19,157 89	\$11,794 93	\$323,578 69

* Now Summer Street, over Reserved Channel.

Repairs on Inland Bridges.

BRIDGES.	Labor and Material.
Adams Street.....	\$190 93
Allston.....	466 21
Arlington Street.....	138 10
Babson Street.....	165 51
Beacon Street, over Boston & Albany Railroad.....	152 65
Beacon Street, over outlet.....	151 72
Blakemore Street.....	1,092 99
Bennington Street.....	62 30
Boston Street.....	129 60
Boylston Street.....	398 65
Braddock Park-Follen Street (foot).....	86 88
Broadway, over Boston & Albany Railroad.....	47 32
Brook Street (stairs).....	9 75
Byron Street.....	99 37
C Street (stairs).....	231 95
Cambridge Street, Boston & Maine Railroad.....	55 91
Central Avenue.....	524 17
Charlesgate, West.....	199 72
Clarendon Street.....	83 65
Cummins Highway.....	98 75
Dana Avenue.....	145 46
Dartmouth Street (rent).....	300 00
Everett Street.....	886 43
Fairmount Avenue.....	390 37
Freeport Street.....	231 45
Gove Street.....	130 76
Glenwood Avenue.....	524 32
Granite Avenue.....	63 83
Huntington Avenue.....	48 00
Longfellow.....	506 90
Milton Lower Mills.....	119 23
Mystic Avenue.....	417 78
Neptune Road.....	323 09
New Allen Street.....	96 16
Norfolk Street.....	169 46
<i>Carried forward.....</i>	\$3,739 37

Repairs on Inland Bridges.—Concluded.

BRIDGES.	Labor and Material.
<i>Brought forward.....</i>	<i>\$8,739 37</i>
Old Colony Avenue (overpass).....	24 45
Perkins Street (foot).....	280 67
Public Landing, Northern Avenue.....	3 50
Public Landing, Summer Street.....	146 50
Redfield Street.....	173 91
Reservation Road.....	171 75
Southampton Street.....	240 38
Sprague Street.....	440 60
Summer Street, over C Street.....	131 68
Tollgate Way.....	52 50
Webster Street.....	103 97
West Fourth Street.....	140 88
Winthrop.....	152 86
Cleaning bridges.....	391 34
Snow and sanding.....	1,176 90
Other services.....	638 18
Total.....	\$13,009 44

SUMMARY.

Administration	\$59,005 04
Yard and stockroom	18,889 26
Tidewater bridges	323,578 69
Inland bridges	13,009 44
 Boston and Cambridge bridges	 \$414,482 43
	4,355 07
 Total	 \$418,837 50

SPECIAL APPROPRIATIONS.
BRIDGES, REPAIRS, ETC.

Allston Bridge:		\$364	96
Flagman			
Broadway Bridge:			
Machinery repairs		192	00
Charlestown Bridge:			
Fender repairs		\$1,761	48
Sidewalk repairs		344	15
			2,105
Chelsea North Bridge:			
W. H. Ellis & Son Company		\$24,448	18
Kenworthy & Taylor, Inc.		3,198	12
			27,646
Chelsea South Bridge:			
Machinery repairs		\$585	96
Steel repairs		91	69
			677
Chelsea Street Bridge:			
Machinery repairs		468	96
Congress Street Bridge:			
Counterweights		188	45
Malden Bridge:			
Machinery repairs		\$65	20
Counterweights		541	95
Motor repairs		536	16
			1,143
Meridian Street Bridge:			
Machinery repairs		\$48	00
Material lumber		128	33
			176
Summer Street Bridge, over Fort Point Channel:			
Machinery repairs		\$318	80
Jack-Up leaf		32	25
			351
Winthrop Bridge:			
Baker & Co.		\$8,057	27
Advertising		28	00
			8,085
Dover Street Bridge:			
Machinery repairs		\$194	80
Repair gates		300	40
			495
Northern Avenue Bridge:			
Machinery repairs		245	20
Warren Bridge:			
Machinery repairs		40	00
<i>Carried forward</i>			
		\$42,180	31

<i>Brought forward</i>	. . . . .	\$42,180 31
Summer Street Bridge, over Reserved Channel:		
Fence repairs	. . . . .	\$32 37
Fender pier repairs	. . . . .	712 63
		745 00
Brooks Street Stairs:		
Install new treads	. . . . .	530 75
Columbus Avenue Bridge:		
Electrical repairs	. . . . .	185 10
		<u>\$43,641 16</u>

BRIDGES — CONSTRUCTION OF.

Broadway Bridge, over Boston & Albany Railroad:	. . . . .
Frederick W. Byron	. . . . .	\$11,354 30
<hr/>		
Malden Bridge:	. . . . .
A. D. Daddario	. . . . .	\$52,935 36
Test concrete cylinders	. . . . .	28 00
		52,963 36
Summer Street Bridge, over Reserved Channel:		
Marinucci Brothers Company	. . . . .	20,000 00
		<u>\$884,317 66</u>

SUMMARY.

Expenditures from Special Appropriations.

	Balance from 1943.	Total Credits, Including Balances Carried over and Transfers.	Expended During Year 1944.	Unexpended Balances December 31, 1944.
Bridges, repairs, etc.....	\$24,630 68	\$53,530 68	\$43,641 16	\$9,889 52
Bridges, construction of....	129,836 57	129,836 57	84,317 66	45,518 91
Civilian defense activities..	1,653 48	1,653 48	492 75	1,160 73
Totals.....	\$156,120 23	\$175,020 73	\$128,451 57	\$56,569 16

Draw Openings, 1944.

BRIDGES,	STEAMERS,			SAILING VESSELS,			TUGS,			BARGES,			ALL OTHERS,			TOTAL NUMBER OF VESSELS,			TOTAL NUMBER OF Cargoes,	TOTAL NUMBER OF Openings,	
	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.			
Broadway.....	.....	.....	.....	.....	.....	.....	577	17	594	66	7	73	447	6	453	1,090	30	1,120	250	574
Charlestown.....	.....	.....	.....	16	16	33	178	83	52	135	76	2	78	330	77	407	76	136	.....	.....
Chelsea North.....	6	1,313	3	2	5	10,652	2,238	12,890	2,628	1,116	3,744	875	127	1,002	15,465	3,489	18,954	1,164	7,890
Chelsea South.....	54	190	.....	.....	.....	.....	1,141	477	1,618	51	24	75	245	109	354	1,573	664	2,237	308	875
Chelsea Street.....	154	219	.....	.....	.....	.....	1,603	595	2,198	869	*409	1,278	228	26	254	2,854	1,095	3,949	816	2,557
Congress Street.....	56	62	.....	.....	.....	.....	1,437	196	1,633	162	29	191	624	57	681	2,279	288	2,567	606	1,344
Dorchester Avenue.....	.....	.....	.....	.....	.....	.....	589	20	609	68	6	74	552	10	562	1,209	36	1,24 ^t	247	626
Dover Street.....	2	.....	2	.....	.....	.....	585	2	587	72	.....	72	432	.....	432	1,091	2	1,093	246	562
L Street *.....	112	5	117	3	3	490	92	582	326	31	357	2,548	687	3,23 ^t	3,479	815	4,294	.....	3,070	
Malden.....	41	26	67	.....	.....	508	149	657	164	67	231	194	16	210	907	258	1,16 ^t	164	717	
Meridian Street.....	708	220	928	6	1	7	5,160	2,294	7,454	2,423	936	3,359	4,965	477	5,442	13,262	3,928	17,190	2,385	10,358	
Northern Avenue.....	52	35	87	4	4	3,223	876	4,096	175	39	214	1,975	476	2,451	5,429	1,426	6,855	833	3,531		
Summer Street.....	56	6	62	.....	.....	.....	1,058	217	1,305	162	29	191	617	57	674	1,923	309	2,232	476	1,116
Warren.....	.....	.....	.....	1	1	159	20	179	104	40	144	255	5	260	519	65	584	94	456	
Totals.....	2,624	423	3,047	33	3	36	27,367	7,216	34,583	7,353	2,785	10,138	14,033	2,055	16,088	51,410	12,482	63,892	7,665	33,812	

* Now Summer Street, over Reserved Channel.

GRANITE AVENUE BRIDGE.*

Drawtenders' salaries													\$3,506 40
Material													41 50
Marinucci Brothers & Co													3,060 90
Supplies													109 82
<hr/>													\$6,718 62

* One half paid by County of Suffolk and one half by Town of Milton.

	TUGS.			BARGES.			ALL OTHERS.			TOTAL NUMBER OF VESSELS.			Total Number of Cargoes.	Total Number of Openings.
	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.		
Draw Openings..	2	2	4	1	1	2	51	77	128	54	80	134	....	132

FERRY SERVICE.

FINANCIAL STATEMENT FOR THE YEAR ENDING
DECEMBER 31, 1944*Toll Receipts.*

Total cash receipts during the year	\$9,913 90
Cash in hands of tollmen at beginning of year,	\$90 00
Cash paid over to City Collector	\$9,913 90
Cash in hands of tollmen December 31, 1944	\$90 00

Breakdown of Toll Receipts.

From foot passengers	\$4,505 60
From vehicles	\$5,408 30

	From Foot Passengers.	From Vehicles.	Totals.
Boston side.....	\$2,322 90	\$2,777 45	\$5,100 35
East Boston side.....	2,182 70	2,630 85	4,813 55
Total.....	\$4,505 60	\$5,408 30	\$9,913 90

TRAVEL ON THE SOUTH FERRY FROM JANUARY 1, 1944,
TO DECEMBER 31, 1944, INCLUSIVE.

Foot passengers at 1 cent	450,560
Handcart, or wheelbarrow and man.....	5 cents}
Horse and rider.....	5 cents}
Horse and cattle, each with attendant.....	5 cents}
One or two-horse vehicle with driver.....	5 cents}
Motorcycle with driver.....	5 cents}
Trailer.....	10 cents}
Three or four-horse vehicle with driver.....	10 cents}
Passenger automobile with driver and one passenger,	10 cents}
Passenger automobile with driver and more than one passenger.....	15 cents}
Motor truck, six tons or less, with driver.....	15 cents}
Motor truck, over six tons, with driver.....	20 cents}
Auto bus with driver.....	20 cents}
Auto bus with driver and passenger.....	30 cents
Free vehicles.....	162

**SUMNER TRAFFIC TUNNEL.
ANNUAL TRAFFIC BY CLASSIFICATION FOR THE YEAR 1944.**

No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.	No. 9.	City-Owned.	Total
										CLASSIFICATION.
January.....	17,949	360,210	11	2,195	301	1,157	10	55	17,542	40,748
February.....	17,325	343,341	11	2,252	302	1,165	7	23	17,501	41,391
March.....	21,240	378,229	22	3,082	349	1,130	8	18	18,036	33,885
April.....	19,666	402,364	90	2,350	393	956	8	56	17,379	28,585
May.....	23,127	514,335	197	2,874	591	844	16	50	18,173	29,889
June.....	23,251	572,481	189	3,286	576	949	9	32	16,979	32,503
July.....	21,625	607,441	232	2,643	600	614	19	30	16,859	30,724
August.....	25,787	556,013	240	2,976	496	700	10	39	17,094	27,909
September.....	22,350	500,751	132	2,742	515	751	3	14	15,793	29,061
October.....	23,695	446,368	81	2,890	454	750	0	21	16,272	28,895
November.....	21,724	433,922	74	2,754	389	709	9	23	15,649	27,545
December.....	21,320	442,715	25	3,052	345	844	5	22	15,773	27,743
Totals.....	259,059	5,558,170	1,304	33,096	5,311	10,569	104	383	203,050	* 378,888

TOLL CLASSIFICATIONS.

- Class 1. 20 cents. Truck not in excess of two tons capacity. Tractor without trailer.
- Class 2. 20 cents. Passenger car.
- Class 3. 20 cents. Motorcycle.
- Class 4. 25 cents. Truck over two tons and up to five tons capacity. Tractor with trailer over two tons and up to five tons capacity.
- Class 5. 20 cents. Passenger car with trailer.
- Class 6. 35 cents. Truck over five tons and up to ten tons capacity. Tractor with trailer over five tons and up to ten tons capacity.
- Class 7. 20 cents. Tractor with trailer not in excess of two tons capacity.
- Class 8. \$1. Truck over ten tons capacity. Tractor with trailer over ten-ton capacity.
- Class 9. 35 cents. Bus with or without passengers.

* Includes 157,069 military vehicles at 20 cents.

SUMNER TRAFFIC TUNNEL.

**Comparison of Receipts, Expenditures, Interest and Sinking Fund Requirements,
1940 to 1944, Inc.**

	1940.	1941.	1942.	1943.	1944.
Expenditures.....	\$229,635 64	\$232,802 62	\$253,169 54	\$243,257 21	\$260,220 64
Interest Requirements.....	832,123 75	831,400 00	830,487 50	825,995 00	836,411 25
Sinking Fund Requirements.....	204,131 00	204,981 00	271,577 00	272,549 00	273,024 00
Total Expenditures.....	\$1,265,890 39	\$1,269,183 62	\$1,355,234 04	\$1,341,801 21	\$1,369,655 89
Receipts.....	960,365 16	1,110,428 47	991,160 64	1,026,227 33	1,288,104 38
Deficits.....	\$305,525 23	\$158,755 15	\$364,073 40	\$315,573 88	\$81,551 51
Amount transferred from toll receipts to primary sinking fund requirements.....					136,627 61
1944 deficits.....					\$218,179 12

SUMNER TRAFFIC TUNNEL.

Comparative Traffic Count.

	1940.	1941.	1942.	1943.	1944.
January.....	385,204	402,754	528,392	354,106	440,178
February.....	326,894	422,704	499,935	357,103	423,318
March.....	428,797	472,748	580,371	465,245	455,999
April.....	459,697	543,507	609,665	444,604	471,847
May.....	554,389	680,203	628,151	498,689	590,106
June.....	650,329	740,337	652,020	487,746	650,255
July.....	726,508	794,095	642,056	557,116	680,787
August.....	673,667	766,717	574,917	568,911	631,264
September.....	555,474	656,450	543,220	542,060	572,112
October.....	550,792	667,694	536,787	502,399	519,426
November.....	495,826	600,123	510,650	470,066	502,798
December.....	501,947	615,516	464,691	467,954	511,844
Yearly totals.....	6,309,524	7,362,848	6,770,855	5,715,999	6,449,934

APPENDIX B.

REPORT OF THE DIVISION ENGINEER OF THE HIGHWAY DIVISION.

BOSTON, January 2, 1945.

To the Commissioner of Public Works.

DEAR SIR,— I submit the following report of the operations and expenditures of the Highway Division for the year ending December 31, 1944.

The following is a summary of the budget appropriations for 1944 for the below-mentioned items:

<i>Maintenance.</i>	
Appropriation for 1944	\$934,256 00
Transfers to this appropriation	2,800 00
	<hr/>
	\$937,056 00
Transfers from this appropriation	21,177 06
	<hr/>
	\$915,878 94
Amount expended	911,355 37
	<hr/>
Balance unexpended	<u>\$4,523 57</u>

The amount of money taken in through the Permit Office of the Paving Service was \$10,245.62. Of this amount \$8,009.62 was deposited with the City Collector, and \$2,236 was billed to Public Service Corporations. There are now on file 1,824 bonds covering the city against claims for damages, etc., through the use of permits.

The regular forces of the Paving Service were employed as usual in the maintenance of all public streets, resurfacing and patching macadam pavements, patching all permanent pavement such as asphalt, granite blocks, etc., and taking care of all gravel, brick and artificial stone sidewalks.

Contracts were let for the construction and reconstruction of one hundred and eighty-four streets during the year. Artificial stone sidewalks were installed on twenty of these streets.

Some of the most important thoroughfares reconstructed during the year were as follows:

Rutherford Avenue, Charlestown, Chapman to Cambridge Streets.

Dorchester Street, South Boston, Andrew Square to West Ninth Street.

Columbus Avenue, Roxbury, Dudley to Centre Streets.

Blue Hill Avenue, Dorchester, American Legion Highway to River Street.

Washington Street, Dorchester, Bowdoin Street to Talbot Avenue.

Centre Street, West Roxbury, South Street to the Arborway.

In the City Proper work was done on the following-named streets:

Summer Street; Kneeland Street; Massachusetts Avenue; Beacon Street; Newbury Street; Hampden Street.

LIGHTING SERVICE.

The Lighting Service Appropriation of the Highway Division called for \$961,198. A transfer of \$1,500 was received from the Paving Service and \$961,732.22 was expended, leaving a balance of \$965.78.

Mazda lamps of 1,000 c.p. were installed as follows: Brookline Avenue (2), City Proper; Main Street (2), Charlestown; Washington Street (1), Dorchester; Porter Street (1), East Boston; Hyde Park Avenue (1), Hyde Park.

One 600 c.p. lamp was installed on American Legion Highway, West Roxbury.

Mazda lamps of 400 c.p. were installed as follows: Goodenough Street (1), Egremont Road (1), Brighton; Breed Street (1), East Boston.

Mazda lamps of 250 c.p. were installed as follows: Bower Street (1), Delle Avenue (5), Roxbury; Wood Avenue (4), Hyde Park.

Mazda lamps of 80 c.p. were installed as follows: Hallowell Street (1), Regan Road (1), Columbia Road (1), Stow Road (1), Dorchester; Tower Street (1), East Boston; Lewis Street (3), Magee Street (3), Sherrin Street (2), Milton Avenue (1), Crown Street (1), Hyde Park; La Grange Street (1), Prospect Street (1), Byrd Avenue (1), Buchanan Road (1), Bullion Road (1), Furbush Road (1), Bryant Road (2), Gloria Road (3), West Roxbury.

Mazda fire lamps were installed as follows: Cambridge Street (1), City Proper; Chestnut Hill Avenue (1), Commonwealth Avenue (2), Lanark Road (1), Brighton Avenue (1), Brighton.

Owing to war conditions there was no prescribed underground district for the year 1944.

Yours respectfully,

R. J. KELLEY,
Acting Division Engineer.

TABLE SHOWING LENGTH AND AREA OF PAVING ON ACCEPTED STREETS, CORRECTED TO JANUARY 1, 1945.

	LENGTH IN MILES.											AREA IN SQUARE YARDS.										
	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1943 Report.....	* 139.63	† 202.95	‡ 73.67	0.66	0.71	0.97	\$ 28.08	¶ 246.16	15.23	1.65	709.71	* 2,691,100	† 3,954,953	§ 1,956,152	14,249	15,923	21,366	§ 574,582	¶ 4,034,242	240,012	47,456	13,550,044
Per Cent.....	19.67	28.00	10.38	0.09	0.10	0.14	3.96	34.68	2.15	0.23	100.00	19.86	29.19	14.44	0.10	0.12	0.16	4.24	29.77	1.77	0.35	100.00
JANUARY 1, 1945.																						
City Proper.....	34.74	27.73	24.80	0.27	0.13	0.40	3.23	4.95	0.22	.....	96.47	715,475	631,226	556,604	3,014	3,750	6,685	114,819	78,853	1,563	.....	2,112,589
Charlestown.....	1.64	4.07	9.19	0.08	0.07	.....	1.07	6.53	0.08	0.01	22.74	30,490	63,714	223,397	2,011	1,999	.....	22,768	93,669	1,846	41	439,941
East Boston.....	3.81	11.02	5.05	0.01	0.05	0.04	1.08	14.56	0.69	0.04	36.35	85,194	222,429	121,923	325	777	771	35,891	318,154	13,944	865	800,273
South Boston.....	8.45	9.79	10.31	0.04	0.19	0.12	0.77	13.83	0.17	0.97	44.64	167,640	194,388	285,805	1,255	4,797	2,993	21,676	241,690	2,686	25,029	947,959
Roxbury.....	24.44	23.17	11.33	0.10	.....	0.14	0.81	27.28	0.92	0.00	94.19	443,149	444,932	289,169	2,080	.....	5,438	117,457	399,842	12,520	61	1,715,257
West Roxbury.....	25.68	44.82	3.41	0.01	0.07	.....	5.35	60.59	1.80	0.32	142.05	468,063	817,971	155,363	210	1,380	.....	76,111	976,033	28,847	10,351	2,534,329
Dorchester.....	34.58	48.70	6.77	0.06	0.07	0.27	6.53	68.96	2.76	0.07	168.77	650,510	878,843	191,260	1,669	1,242	5,479	117,770	1,050,384	44,466	2,341	2,973,964
Brighton.....	11.68	32.34	0.62	0.00	0.08	.....	2.30	15.52	0.90	0.00	63.44	254,089	612,040	73,348	958	1,231	.....	50,648	263,638	13,756	2,820	1,272,528
Hyde Park.....	0.66	9.53	0.05	0.09	0.05	.....	0.94	22.91	6.95	0.24	41.42	15,631	207,735	8,649	1,384	747	.....	17,373	390,456	106,661	7,255	755,891
Total.....	145.68	211.17	71.53	0.66	0.71	0.97	28.08	235.13	14.49	1.65	710.07	2,830,247	4,073,278	1,905,518	14,115	15,923	21,366	574,513	3,842,719	226,229	48,763	13,552,731
Per Cent.....	20.52	29.74	10.07	0.09	0.10	0.14	3.96	33.11	2.04	0.23	100.00	20.88	30.06	14.06	0.10	0.12	0.16	4.24	28.33	1.67	0.36	100.00

TOTAL PUBLIC STREETS 710.07 MILES.

NOTE.— In the above table the city is subdivided substantially on the boundary lines between the districts as they existed when annexed to Boston. Territory annexed from Brookline included in City Proper.

* Of this amount 0.10 mile or 834 square yards is Biturock; and 0.03 mile or 537 square yards is Kyrock; and 0.00 mile or 310 square yards is Unionite.

† Of this amount 0.02 mile or 185 square yards is Cobble; and 48.65 miles or 1,482,256 square yards is granite block paving on concrete base.

‡ Of this amount 0.06 mile or 924 square yards is Blome granitoid concrete block.

§ Of this amount 191.99 miles or 3,173,251 square yards is bituminous macadam.

¶ Of this amount 191.99 miles or 33,444 square yards public alleys included in this table; 7.41 miles or 33,065 square yards public streets in charge of Park Department included in this table; 7.01 miles or 236,673 square yards public streets in charge of Commonwealth of Massachusetts included in this table. In addition to this table there are 1.98 miles or 10,619 square yards of accepted footways.

† Of this amount 98.93 miles or 1,770,033 square yards is asphalt concrete; and 102.01 miles or 2,011,849 square yards is asphaltic concrete; and 0.00 mile or 4,000 square yards is Colprovia; and 0.06 mile or 942 square yards is Fibrethane; and 0.00 mile or 4,000 square yards is Hepburnite; and 0.00 mile or 3,003 square yards is Laykold; and 0.00 mile or 4,167 square yards is Macaphalt; and 0.21 mile or 5,200 square yards is Simaso; and 10.06 miles or 180,917 square yards is Topeka; and 0.00 mile or 4,153 square yards is Wareolite; and 0.18 mile or 3,474 square yards is Carey Elastite asphalt plank; and 0.11 mile or 2,507 square yards is Flintkote asphalt plank; and 0.11 mile or 1,234 square yards is Johns-Manville asphalt plank.

HIGHWAY DIVISION — PAVING SERVICE.

Work Done by Contract, 1944.

	Type of Work.	
Earth excavation	41,712 cubic yards.	
Rock and wall excavation	923 cubic yards.	
Bank gravel filling	10,958 tons.	
Crushed stone	3,150 tons.	
Old concrete base removed	6,530 square yards.	
Old pavement removed	207,165 square yards.	
Scarifying	41,760 square yards.	
Fine grading	45,576 square yards.	
Straight edgestone set	10,802 linear feet.	
Circular edgestone set	1,405 linear feet.	
Edgestone reset	49,997 linear feet.	
Class B concrete laid (cubic yards)	10,252 cubic yards.	
Class B concrete laid (square yards)	55,822 square yards.	
Extra concrete laid	30 cubic yards.	
Bituminous macadam base	105,349 square yards.	
Oa asphalt	51,611 gallons.	
Bituminous macadam pavement	2,111 square yards.	
Granite block pavement	5,525 square yards.	
Sheet asphalt pavement	46,764 square yards.	
Sheet asphalt top	17,091 tons.	
Sheet asphalt binder	19,437 tons.	
Bituminous concrete pavement	236,189 square yards.	
Cement concrete pavement	1,450 square yards.	
Artificial stone sidewalks and driveways	395,199 square feet.	
Brick sidewalks	1,919 square yards.	
Bituminous concrete sidewalks	3,200 square yards.	
Artificial stone foundation	2,185 cubic yards.	
Covers reset	3,319 cubic yards.	
Street sign posts	17	

YEARLY REPORT OF WORK DONE BY DEPARTMENT
FORCES FOR 1944.

Brick sidewalks, laid and relaid	6,546 square yards.
Gravel sidewalks, relaid	18,392 square yards.
Granolithic sidewalks, laid (new)	42,617 square feet.
Granolithic sidewalks, relaid (old)	50,233 square feet.
Tar sidewalks	27,942 square yards.
Block gutters, laid	83 square yards.
Granite block roadway, laid	207 square yards.
Edgestone set (new)	54 linear feet.
Edgestone reset (old)	4,711 linear feet.
Macadam roadway, patched	81,594 square yards.
Macadam roadway, resurfaced	5,858 square yards.
Street cleaning	30,626 cubic yards.
Snow removal	56,007 cubic yards.

Objects of Expenditure from Maintenance Appropriation, Classified by Districts, from January 1, 1944, to December 31,
1944.

Districts.	Macadam Repairs.	Granolithic Sidewalk Repairs.	Removal of Snow.	Street Cleaning.	Edgestone, Sidewalk and Gutter Repairs.	Bituminous Sidewalk Repairs.	Miscellaneous.	Total.
South Boston and Dorchester North.....	\$5,229 34	\$6,193 48	\$2,313 57	\$5,465 36	\$6,647 81	\$418 71	.....	\$26,268 27
East Boston.....	5,816 71	2,799 77	1,087 15	5,461 87	2,155 56	446 90	.....	17,767 96
Charlestown.....	3,305 14	5,325 56	1,146 00	3,098 02	4,021 13	1,258 00	.....	18,163 85
Brighton.....	4,101 07	4,553 43	3,116 37	23,645 84	1,140 75	97 97	.....	37,535 43
West Roxbury.....	13,911 69	5,410 79	2,682 85	16,897 10	1,341 04	620 68	.....	40,864 15
Dorchester.....	6,316 22	11,967 12	3,753 85	2,412 31	1,917 70	2,783 78	.....	29,150 98
Roxbury South and Jamaica Plain.....	9,329 37	4,827 64	2,329 71	6,504 96	7,279 52	4,468 02	.....	34,739 22
City Proper.....	17,342 86	12,980 39	2,996 61	4,312 45	9,759 72	140 75	.....	47,532 78
Ashmont.....	8,631 17	4,938 45	2,469 13	5,309 81	6,952 50	.....	.....	28,301 06
Hyde Park.....	7,561 32	1,811 48	2,312 46	8,595 40	4,018 16	2,963 43	.....	27,262 25
Totals.....	\$81,544 89	\$60,808 11	\$24,207 70	\$81,703 12	\$45,233 89	\$14,078 24	\$603,779 42	\$801,355 37

Miscellaneous includes: Street signs, \$15,583.42; sanding icy streets, \$8,266.02; F-7, \$7,454; F-11, \$3,627.81; paved street repairs, \$154; granite block roadway repairs, \$210.21; miscellaneous, \$508,483.96.
 Special Appropriations: Public Ways, Construction of (non-revenue), \$1,052,679.93; Show Removal, (revenue) \$219,376.62; Public Ways, Construction of (revenue), \$140,083.48; Sidewalks, Construction and Reconstruction of (revenue), \$50,525.83.
 Total, Maintenance and Specials, \$2,374,021.23. (P. C. A., \$72,214.97).

PERMIT OFFICE ACTIVITIES, 1944.

Under classes 1 and 2 of the schedule of permit fees, permits were issued for openings in public ways as follows:

	Number of Permits.
City departments	1,500
Public service corporations	1,300
Emergency permits for same	1,500
Miscellaneous	593
Total	4,893

Permits for other than openings were as follows:

Painting and building repair occupation	1,591
Sign work	81
Special permits	301
Awning work	87
Raising or lowering safes and machinery	164
Total	2,224
Grand total	7,117

Fees received, \$10,245.62. Deposited with City Collector, \$8,009.62. Billed to public services, \$2,236.

BONDS.

There are now on file 1,824 bonds covering the city against claims that may be made on account of permits issued.

APPENDIX C.

REPORT OF THE DIVISION ENGINEER OF THE SANITARY DIVISION.

BOSTON, January 2, 1945.

To the Commissioner of Public Works.

DEAR SIR,—I submit herewith a statement of the activities and expenditures of the Sanitary Division for the year ending December 31, 1944:

Maintenance expenditure	<u>\$3,093,460 32</u>
I. Waste collection and disposal	<u>\$2,122,491 13</u>
(a) By contract (Table II)	\$1,460,671 97
(b) By day labor (Table III)	661,819 16
II. Street cleaning (Table V)	\$853,108 44
III. Not directly chargeable to 1944 operation	\$117,860 75
(a) For other services	\$9,542 12
(b) Pensions	11,106 25
(c) Injured roll	5,341 22
(d) Unused stock	14,008 29
(e) Salvage (tin, paper, etc.)	31,561 03
(f) Preventive street cleaning	46,297 84
Personnel changes in permanent force:	
Total personnel January 1, 1944	779
Transfers from other departments and divisions	15
New appointments	108
Reinstatements	8
	<u>— 131</u>
	910
Deaths	13
Resignations	17
Retirements	17
Transfers out	11
Discharged	1
	<u>— 59</u>
Total Personnel January 1, 1945	<u>851</u>

Garbage and Refuse Collection Work.—The garbage and refuse collection work, as heretofore, has been done principally under the contract system. The collection by city forces includes only the City Proper, South, North and West Ends, and a part of Roxbury. These

districts are known as 9, 10 and 7, respectively. There are thirteen contract collection districts, numbered 1, 2, 3, 4, 5A, 5B, 6, 7A, 7B, 7C, 9A, 9B and 11, comprising the South Boston, East Boston, Charlestown, Brighton, West Roxbury, Jamaica Plain, Dorchester, and part of Roxbury sections, the Back Bay section and part of the City Proper.

The collection work by city forces has been maintained satisfactorily throughout the year despite wartime conditions, with attendant shortage of adequate equipment, coupled with an understandable unrest in labor circles because of the differential in wages paid to municipal employees and those in private employment.

The employees engaged in this work, however, were intensely loyal, and it is to their credit that Boston did not have to curtail or suspend any garbage or refuse collection work at any period of the year, whereas many cities throughout the country had intervals of strikes among municipal collectors, and many had to curtail the collection work due to shortages of labor and equipment.

Publicly advertised bids for the collection of garbage and refuse in the contract areas were opened on December 21, 1943, with very few competitive bids being submitted. In nine out of the thirteen districts, only one bid was submitted in each district; in one district, only three bids, and in the remaining three districts, only two bids were received in each of the three districts. Only ten contractors submitted bids, nine of whom had the contracts in the year 1943.

The lack of competition for this work at this time is understandable because of the shortage of labor. The contractors who are currently doing the work have the advantage over potential competition because all employees of the contractors engaged in garbage and refuse collection work have been designated by the War Production Board as being "locally needed," with the result that they cannot change their jobs without the permission of the W. P. B. and the contractor to whom they are assigned. Under the circumstances, therefore, the present contractors have, in great measure, cornered the employment market, and have practically eliminated competition. Appeals were made to the War Production Board to correct this condition and have the employees assigned to garbage and refuse work, rather than to contractors doing this kind of work. The

W. P. B. replied that the policy of assigning employees to contractors and not to industries or trades was in effect all over the country, and no exception could be made for Boston.

The contract collection work proceeded satisfactorily throughout the year, considering the wartime conditions; and, as in the case of collections by city forces, there was no curtailment or suspension of this important service during the year.

Garbage and Refuse Disposal.—At the completion of the ten-year disposal contract, which terminated on June 30, 1942, a one-year contract was entered into with the Coleman Disposal Company. This contract was followed by another one-year contract, which terminated on June 30, 1944. Prior to the completion of this contract, an examination was made by a competent auditor of the books and records of the company affecting the disposal contract, and several meetings were held with representatives of the Coleman Disposal Company and of this department for the purpose of negotiating another one-year contract to start on July 1, 1944.

As the result of the audit and following negotiations between representatives of the department and the Coleman Disposal Company, a contract was executed covering the period from July 1 to December 31, 1944, with the option on the part of the city, if agreeable to the contractor, to extend the time to June 30, 1945. It was agreed that the base sum paid to the contractor for this service would be the same as provided in the previous contract, namely, \$30,000 per month. It was also further agreed that the city would pay—up to a limit of \$5,000 for the six-month period of 1944—one half of any increases in pay for the contractor's employees if said increases were approved by the War Labor Board.

The work required under the provisions of this contract has been proceeding most satisfactorily, and no serious complaints were received regarding the condition of the dumps at Spectacle Island or at Mile road, or at the water-front receiving stations on Atlantic avenue, Albany street and Victory road.

This contract, in substance, required the contractor to dispose of all refuse collected by city forces and by the contractors in the City Proper, North and South and West Ends, Back Bay, Roxbury, South Boston, Charles-

town, and also all garbage collected in the above-listed districts and from the Dorchester district.

The yearly disposal contracts of the past three years have all terminated on June 30, which has made it necessary for us to insert a provision in the collection contracts affected by the Coleman Disposal Contract to the effect that the contracts would terminate on June 30, with the option of extending them to December 31. The collection contracts affected by the Coleman Disposal Contract were in those districts where the refuse and garbage were required to be delivered to the dumps and water-front stations operated by the Coleman Disposal Company.

Such a provision in the collection contracts was unsatisfactory, and in order to have the collection contracts and the disposal contract cover the same period, namely, a calendar year, negotiations were entered into by the department and the Coleman Disposal Company in December to execute a contract for the calendar year of 1945. These negotiations ended satisfactorily, and a contract was executed in December for the calendar year of 1945 on the same basis and at the same price that governed the contract which was in effect from July 1 to December 31, 1944.

Street Cleaning Work.—The city is divided into thirteen street cleaning districts, one pushcart patrol district in the downtown area, and one district combining the market area and the North and West Ends where cleaning is done at night. Three of the thirteen districts, Brighton, Jamaica Plain and Hyde Park, are cleaned by the Highway Division. The division has been handicapped to some extent in keeping the streets clean by our inability to purchase trucks and an adequate number of street cleaning machines, but we have been handicapped to a far greater extent by the so-called "extracurricular" duties that we have had to assume because of the war.

All street cleaning employees and equipment have been assigned for one full week of each month to the house-to-house collection of waste paper and tin cans, and all street cleaning employees have likewise been required to participate in the air raid precaution drills and tests conducted by the local Safety Committee. Assignments of the latter-mentioned nature, worthy and necessary though they may be, have had practically

the same effect on the division that a 25 per cent reduction in personnel and equipment would have. Despite handicaps of this kind, we were able to keep the streets in most sections of the city in a reasonably clean condition, but, unquestionably, we did not reach the degree of efficiency that we hope to reach when we shall be able to purchase modern street cleaning equipment, and when we shall be able to devote the time and efforts of the street cleaning personnel to street cleaning work only.

Spring Clean-Up Drive.—A most successful spring clean-up drive was conducted by the division with the cooperation of the Health Department for the two-week period from March 27 to April 8.

Detailed preparations for the drive were started early in March, and full cooperation of the Boston newspapers and the general public was obtained. During this two-week period, every public street in the city was cleaned at least once of the winter's accumulation of sand, mud and other debris. The residents cooperated by cleaning out their back yards, cellars and attics, and by placing the debris and rubbish on the sidewalks on the regular rubbish collection days. The collectors were instructed to remove all such rubbish and haul it to the dump.

In order to arouse public interest in the clean-up, and to obtain the cooperation of all residents, the following steps were taken:

Each school child was given a pledge card and letter signed by the Mayor asking the full cooperation of the children and parents in the Clean-up Drive. The pledge was to be signed by the parent and returned by the pupil to the school.

Each family in the city was furnished with a card containing a copy of Boston's Clean City Code. This card was to be hung up in the kitchen as a daily reminder to the householder.

Three thousand (3,000) cardboard posters were printed and placed in store windows throughout the city.

One hundred (100) full-sized bill posters were erected on prominent billboards in the city.

Three hundred (300) posters were placed on the fronts of street cars and four hundred and fifty (450) posters were placed in subway stations.

The general theme of all these posters, billboards, etc., was to call attention to the big clean-up to be held in Boston from March 27 to April 8, and asking the people to cooperate by cleaning up yards, alleys and vacant lots.

In addition to this printed publicity, meetings were held for a period of two weeks prior to the start of the drive in the various health centers. Our object was to get as many of the residents as possible to attend these meetings, and to take part in informal discussions as to the steps to take to make the clean-up drive a success and to keep the city in a clean condition thereafter. At these meetings, Mayor Tobin, Health Commissioner Gately, and Public Works Commissioner Hyland addressed the gatherings and participated in the informal discussions.

A newsreel was also made, with Mayor Tobin as narrator appealing to the people for cooperation, and portraying unsanitary conditions, improper refuse disposal methods, proper methods, etc. This newsreel was shown in the principal theaters of Boston one week before the drive, and during the first week of the drive.

Radio talks were also given in the interest of the drive by Mayor Tobin, Commissioner Gately, and Commissioner Hyland. As a result of this extensive publicity, and the cooperation of the residents and newspapers, Boston held one of the most successful spring clean-up drives, and the city was in a nearly spotless condition for Easter, April 9, the day following the end of the drive.

Wartime Activities.— Every employee in the Sanitary Division was assigned to some task in connection with Air Raid Protection, sponsored by the Boston Safety Committee. Each employee had a card containing his name, address, place of assignment and the type of work to which he was assigned, and which he would be required to perform in the event of an air raid. Several air raid tests were held by the Safety Committee, and the employees responded with alacrity to all such calls and reported to their previously assigned locations, and to the scenes of all so-called "incidents" upon receipt of calls from the various report centers located in all sections of the city.

The collection system adopted by the Boston Salvage Committee for the collecting of waste paper and tin

cans provided for a house-to-house collection in the third week of every month. This collection work was done principally by employees and trucks of the Street Cleaning Service, and the men did an outstanding job, as evidenced by the results. Every street in the city was covered in this important wartime salvage work, and each month complaints of noncollections were rare. This is an outstanding record in view of the fact that there are approximately 200,000 families in Boston, most of whom saved waste paper and tin cans faithfully.

During the year, 15,868,140 pounds of waste paper and 3,010,510 pounds of tin cans were collected and shipped to the waste paper mills and detinning plants.

Personnel and Expenditures.—The number of employees working in the Sanitary Division during the year averaged 815, and the budgetary expenditures totalled \$3,093,460.32.

I wish to take this opportunity to pay tribute to the employees of the Sanitary Division for their devotion to duty throughout a most difficult war year. The work of the division was carried on without interruption, and Boston was one of the few cities that did not experience any labor trouble on refuse collection work, or any curtailment or suspension of garbage and refuse collection services.

Former Commissioner of Public Works, George G. Hyland, resigned from that position on December 21, 1944, and was assigned as engineer in the Sanitary Division on the following day.

Respectfully submitted,

ADOLPH J. POST,
Division Engineer.

TABLE I.

Amount Expended for the Collection and Disposal of Ashes and Garbage By Districts, 1944.

Number.	District.	Population.	ASHES AND RUBBISH.		GARBAGE.		Total Cost.	Per Capita.
			Cost.	Per Capita.	Cost.	Per Capita.		
1.	South Boston.....	58,889	\$122,371.56	\$2 078	\$29,041.71	\$0 493	\$151,413.27	\$2 571
2.	East Boston.....	59,663	64,583.84	1 082	21,758.13	0 364	86,342.07	1 446
3.	Charlestown.....	25,587	65,370.54	2 555	—	—	65,370.54	2 555
4.	Brighton.....	62,309	67,101.10	1 077	31,585.70	0 507	98,686.80	1 584
5.	West Roxbury.....	87,606	113,876.02	1 300	58,783.82	0 671	172,659.84	1 971
6.	Dorchester.....	193,892	272,982.44	1 408	154,183.42	0 795	427,165.86	2 203
7.	Roxbury.....	31,786	131,383.48	4 133	64,922.33	2 042	196,305.81	6 175
7a.	Elm Hill.....	24,083	28,853.26	1 198	13,575.80	0 563	42,429.06	1 761
7b.	Dudley (Roxbury).....	62,060	155,124.52	2 500	34,413.94	0 554	180,538.46	3 054
7c.	Mission Hill (Roxbury).....							
9.	South End.....	46,781	214,931.85	4 594	—	—	214,931.85	4 594
9a.	Back Bay	22,648	70,934.80	3 132	—	—	70,934.80	3 132
9b.	Stuart.....	23,768	112,568.24	4 736	—	—	112,568.24	4 736
10.	North and West Ends.....	46,922	237,449.00	5 060	13,132.50	0 279	250,581.50	5 339
11.	Hyde Park.....	24,742	26,199.29	1 060	17,363.74	0 702	43,563.03	1 762
	Totals.....	770,736	\$1,683,730.04	\$2 184	\$438,761.09	\$0 569	\$2,122,491.13	\$2 753

TABLE II.
Cost of Collection and Disposal of Refuse by Contract in City of Boston, 1944.

CONTRACT DISTRICTS.	CONTRACTOR.	CHARACTER OF REFUSE.	CUBIC YARDS.	COAST PER DISTRICT.	COAST PER CUBIC YARD.	POPULATION.	TOTAL COST PER CAPITA.
South Boston.....	Ward General Contracting Company..	Mixed refuse.....	75,374				
		Garbage.....	2,194				\$2 571
		Totals.....	77,568	\$151,413 27	\$1 952	58,889	
East Boston.....	Edward J. McHugh & Son.....	Mixed refuse.....	77,994				
		Garbage.....	3,320				
		Totals.....	81,314	\$86,342 07	\$1 061	59,663	\$1 446
Charlestown.....	Edward J. McHugh & Son.....	Mixed refuse.....	39,506				
		Garbage.....	—				
		Totals.....	39,506	\$65,370 54	\$1 654	25,587	\$2 555
Brighton.....	Anthony J. Ryan, Inc.....	Mixed refuse.....	80,650				
		Garbage.....	8,486				
		Totals.....	89,136	\$98,686 80	\$1 107	62,309	\$1 584
West Roxbury and Jamaica Plain,	John J. Moore Company.....	Mixed refuse.....	105,900				
		Garbage.....	18,136				
		Totals.....	124,036	\$172,659 84	\$1 392	87,606	\$1 971
Dorchester.....	Coleman Brothers Corporation.....	Mixed refuse.....	293,047				
		Garbage.....	50,842				
		Totals.....	343,889	\$396,711 50	\$1 153		

		Garbage disposal, p r o portionate charge.....	—	30,454 36		
		Totals.....	343,889	\$427,165 86	\$1 533	193,892
		Mixed refuse.....	30,305			\$2 203
		Garbage.....	5,754			
	Coleman Brothers Corporation.....	Totals.....	36,059	\$42,429 06	\$1 176	24,083
	Dudley and Mission Hill (Roxbury)	Marinucci Brothers & Co.....	101,166			\$1 761
	Back Bay.....	Garbage.....	10,345			
	Stuart.....	Totals.....	111,511	\$189,538 46	\$1 700	62,060
	Hyde Park.....	Mixed refuse.....	44,888			\$3 054
	Thomas E. Bryan.....	Garbage.....	—			
	Totals.....	Totals.....	44,888	\$70,934 32	\$1 580	23,648
		Mixed refuse.....	95,736			\$3 132
		Garbage.....	—			
	Capitol Contracting Company.....	Totals.....	95,736	\$112,568 24	\$1 175	23,768
		Mixed refuse.....	22,900			\$4 736
		Garbage.....	6,894			
	Totals.....	Totals.....	29,794	\$43,563 03	\$1 462	24,742
		Mixed refuse.....	967,466			\$1 760
		Garbage.....	105,971			
	Totals.....	Totals.....	1,073,437	\$1,460,671 97	\$1 360	646,247
						\$2 260

TABLE III.
Cost of Collection and Disposal of Refuse by Day Labor Force in the City of Boston for the Year Ending December 31, 1944.

Number.	Districts and Population.	Character of Refuse.	Cost per Cubic Yard.			Total Cost.			Total Cost Per Capita
			Cubic Yards.	To Collect.	For Disposal.	Collection and Disposal.	Cost to Collect.	Cost for Disposal.	
7.	Roxbury (31,786)	Mixed refuse	\$0.718	\$1.562	\$0.599	\$2.161	\$94,887.54	\$36,495.94	\$131,383.48
		Garbage	—	—	—	—	46,878.19	18,044.14	64,922.33
	Totals.	90,718	\$1.562	\$0.599	\$2.161	\$141,765.73	\$54,540.08	\$196,305.81	\$6 175
8-9.	Mixed refuse	80,316	\$2.076	\$0.599	\$2.675	\$166,782.57	\$48,149.28	\$214,931.85	—
	Garbagc	—	—	—	—	—	—	—	—
	Totals.	80,316	\$2.076	\$0.599	\$2.675	\$166,782.57	\$48,149.28	\$214,931.85	\$4 594
10.	South End (46,781)	Mixed refuse	112,596	\$1.508	\$0.599	\$2.107	\$169,824.28	\$67,624.72	\$237,449.00
	Garbage	2,954	3.800	0.599	4.399	11,363.05	1,769.45	13,132.50	—
	Totals.	115,550	\$1.568	\$0.599	\$2.168	\$181,187.33	\$69,394.17	\$250,581.50	\$5 339
	Mixed refuse	283,630							
	Garbage	2,954							
	Totals.	286,584	\$1.708	\$0.599	\$2.307	\$489,735.63	\$172,083.53	\$661,819.16	\$5 273

TABLE IV.
Comparative Costs for Cubic Yards, 1943-1944.

Number.	DAY LABOR DISTRICTS.	COLLECTION COST.		TOTAL COST, DISPOSAL.		Cubic Yards. 1943.	Cubic Yards. 1944.
		1943.	1944.	\$0 46055	\$0 599		
7.	Roxbury.....	\$1 6918	\$1 562	\$2 1523	\$2 161	80,337	90,718
9.	South End.....	2 1866	2 076	2 6491	2 675	84,376	80,316
10.	North and West Ends.....	1 4810	1 568	1 9416	2 168	115,746	115,550
	Average.....	\$1 7542	\$1 708	\$2 2149	\$2 307	280,459	286,584
	Collection Cost.....					\$491,989 81	\$489,735 63

Number.	CONTRACT DISTRICTS.	COST PER CUBIC YARD.		Cubic Yards. 1943.	Cubic Yards. 1944.
		1943.	1944.		
1.	South Boston.....	\$1 5504	\$1 952	80,561	77,568
2.	East Boston.....	0 9190	1 061	84,294	81,314
3.	Charlestown.....	1 5078	1 654	40,561	39,506
4.	Brighton.....	0 9648	1 107	97,366	89,136
5.	West Roxbury.....	1 3591	1 392	123,497	124,036
6.	Dorchester (including disposal).....	1 0958	1 533	345,300	343,889
7A.	Elm Hill.....	1 1241	1 176	36,841	36,059
7B.	Dudley (including Mission Hill, 7C).....	1 3947	1 700	118,417	111,511
9A.	Back Bay.....	1 0475	1 580	78,606	44,888
9B.	Stuart.....	0 9243	1 175	110,410	95,736
11.	Hyde Park.....	1 1251	1 462	36,404	29,794
	Average.....	\$1 1590	\$1 360	1,152,257	1,073,437

TABLE V.

Street Cleaning Service, 1944.

Distribution of Expenditures.

Removing snow	\$494,140 00
Brooming	172,206 80
Pushcart patrolling	71,438 36
Refuse box collections	46,859 40
Motor sweeping	58,412 66
Flushing	3,676 00
Sanding slippery streets	3,204 60
Underpass	1,792 20
Hurricane	1,377 42
Total	<u><u>\$853,108 44</u></u>

APPENDIX D.

REPORT OF THE DIVISION ENGINEER OF THE SEWER DIVISION.

BOSTON, January 2, 1945.

To the Commissioner of Public Works:

DEAR SIR,— I submit herewith statement of the activities and expenditures of the Sewer Division for the year ending December 31, 1944.

During the fiscal year 1944, there were built by contractors and day labor 0.52 miles of common sewers and surface drains throughout the city. After deducting 0.06 miles of sewers and surface drains, rebuilt or abandoned, the net increase for 1944 is 0.46 miles, which added to the existing 1,222.05 miles of common sewers and surface drains and 30.93 miles of intercepting sewers, makes a grand total of 1,253.44 miles of all sewers belonging to the City of Boston, and under the care of the Sewer Division on January 1, 1945.

There were 50 catch-basins built or rebuilt and 3 abandoned or removed during the year, making a net gain of 47 catch-basins and a grand total of 22,586 catch-basins under the care of the Sewer Division on January 1, 1945.

Entrance fees to the amount of \$1,153.08 have been deposited with the City Collector for collection from estates upon which no sewer assessments were ever paid, in accordance with Ordinances of 1925, chapter 27, section 10.

424 permits have been issued, viz., 221 to district-foremen and contractors and 203 to drainlayers for repairing or laying new house drains. Inspectors from this office have personally inspected the work done under these drainlayers' permits.

Plans for the assessments of estates for sewer construction have been furnished the Board of Street Commissioners, representing 892.23 linear feet of sewers.

1,923 complaints have been investigated and inspectors are instructed to report in writing in each case.

829 catch-basin complaints were received.

100 gasoline traps have been examined in garages and cleansing establishments.

100 grease traps have been examined in hotels, restaurants and commercial establishments.

Reported in writing on 1,917 municipal liens to the City Collector, in accordance with chapter 60, section 25, of the General Laws. Reported orally on about 2,100 requests for information on municipal liens.

Notices have been mailed to abutters in conformity with the Ordinances, chapter 27, section 8, apprising them of the construction of new sewers or repairs to old sewers.

During the year 1944, 3,427 catch-basins were cleaned by day labor. None were cleaned by contract.

Respectfully,

ROBERT P. SHEA,
Division Engineer.

Summary of Sewer Construction for Twelve Months Ending December 31, 1944.

DISTRICTS.	Built by the City either by Contract or Day Labor.	Acquired by Accession.	Built by Private Parties, etc., or Other City Departments.	Total Lengths Built or Acquired.	
	Linear Feet	Linear Feet	Linear Feet	Linear Feet	Miles
City Proper.....	143.00	.....	.....	143.00	0.027
Roxbury.....	None.	None.	None.	None.	None.
South Boston.....	91.00	.....	.....	91.00	0.017
East Boston	24.00	.....	.....	24.00	0.005
Charlestown.....	92.00	*351.70	270.50	714.20	0.135
Brighton.....	None.	None.	None.	None.	None.
West Roxbury	1,504.66	.....	.....	1,504.66	0.285
Dorchester.....	251.00	.....	.....	251.00	0.047
Hyde Park.....	None.	None.	None.	None.	None.
Totals.....	1,105.66	*351.70	270.50	2,727.86	0.516

*Acquired by accession.

Summary of Sewer Construction for Five Years Previous to January 1, 1945.

	1940.	1941.	1942.	1943.	1944.
Built by city by contract or day labor...	Linear Feet.	Linear Feet.	Linear Feet.	Linear Feet.	Linear Feet.
Built by city by contract or day labor...	5,178.99	11,209.99	10,181.74	2,008.53	2,457.36
Built by city under auspices of W. P. A., etc.....	43,649.38	32,363.69	457.00	.....	.....
Built by private parties or other city departments.....	8,237.38	9,029.94	1,968.20	.....	270.50
Totals.....	27,065.75	52,603.62	12,606.94	2,008.53	2,727.86

Total Length of Sewers.

DISTRICTS.	Total Length Built During Twelve Months Ending December 31, 1944.	Lengths Removed or Abandoned During Twelve Months Ending December 31, 1944.	Additional Lengths for the Twelve Months Ending December 31, 1944.	
	Linear Feet.	Linear Feet.	Linear Feet.	Miles.
City Proper.....	143.00	143.00	.....	.....
Roxbury.....	None.	None.	None.	None.
South Boston.....	91.00	91.00	.....	.....
East Boston.....	24.00	24.00	.....	.....
Charlestown.....	714.20	.....	714.20	0.135
Brighton.....	None.	None.	None.	None.
West Roxbury.....	1,504.66	.....	1,504.66	0.285
Dorchester.....	251.00	18.00	233.00	0.044
Hyde Park.....	None.	None.	None.	None.
Totals.....	2,727.86	276.00	2,451.86	0.464

Grand Total Length of Sewers.

Miles

Common sewers and surface drains built previous to January 1, 1944	1,222.05
Common sewers and surface drains built between January 1 and December 31, 1944	0.46
Total length of common sewers and surface drains built to December 31, 1944	1,222.51
Total length of city intercepting sewers connecting with Metropolitan sewers to December 31, 1944	* 6.81
Total length of Boston main drainage intercepting sewers to December 31, 1944	* 24.12
Grand total of common and intercepting sewers to December 31, 1944	1,253.44
Total mileage of streets containing sewerage works to January 1, 1945	686.80

* No additional lengths built during 1944.

Catch-Basins in Charge of Sewer Division.

DISTRICTS.	CATCH-BASINS FOR TWELVE MONTHS ENDING DECEMBER 31, 1944.			TOTAL FOR WHOLE CITY IN CHARGE OF SEWER DIVISION.	
	Number Built or Rebuilt.	Number Abandoned or Removed.	Net Increase.	Previous Report to January 1, 1944.	Grand Total to January 1, 1945.
City Proper.....	1	1	0	3,627	3,627
Roxbury.....	5	0	5	3,389	3,394
South Boston.....	0	0	0	1,456	1,456
East Boston.....	5	0	5	1,100	1,105
Charlestown.....	2	0	2	839	841
Brighton.....	3	0	3	1,980	1,983
West Roxbury.....	26	0	26	3,885	3,911
Dorchester.....	6	2	4	5,341	5,345
Hyde Park.....	2	0	2	922	924
Totals.....	50	3	47	22,539	22,586

Sewage Statistics for Year 1944, Calf Pasture Pumping Station.

MONTH.	Total Gallons Pumped.	Average Gallons Pumped Per Day.	Maximum Gallons Pumped Per Day.	Minimum Gallons Pumped Per Day.	Average Lift. (Feet.)
January.....	3,129,109,000	104,164,806	146,812,000	85,625,000	39.5
February.....	2,855,695,000	98,472,241	137,500,000	79,900,000	39.5
March.....	3,219,353,000	103,850,097	139,375,000	81,850,000	39.5
April.....	3,152,453,000	105,081,767	142,200,000	93,425,000	39.5
May.....	2,915,511,000	94,048,742	112,494,000	87,325,000	39.5
June.....	3,023,078,000	100,769,266	107,185,000	85,712,000	39.5
July.....	3,050,925,000	98,416,936	131,912,000	85,645,000	39.5
August.....	3,099,673,000	99,989,451	140,017,000	79,232,000	39.5
September.....	3,229,374,000	107,645,800	171,600,000	85,712,000	39.5
October.....	3,002,393,000	96,851,387	163,975,000	85,860,000	39.5
November.....	3,258,016,000	108,600,533	179,950,000	87,237,000	39.5
December.....	3,183,318,000	102,687,678	139,326,000	89,514,000	39.5
Totals.....	37,118,898,000	1,220,578,704			
Averages.....	101,417,754	101,714,892			

Running Time of Pumps.—Number 1, 2,265 hours, 50 minutes; Number 2, 2,857 hours; Number 3, 4,346 hours, 40 minutes; Number 4, 1,095 hours, 15 minutes; Number 5, 4,949 hours, 5 minutes; Number 6, 8,116 hours, 5 minutes.

Sewage Pumped, Calf Pasture Pumping Station, Year 1944.

Total gallons pumped	37,118,898,000
Daily average gallons pumped	101,417,754
Average dynamic head	39.5
Foot gallons	1,466,196,471,000
Foot pounds	12,270,598,265,799

Fuel Record for 1944, Calf Pasture Pumping Station.

MONTH.	Coal. (Tons.)	Pounds.	Amount.
January.....	221	1,000	\$1,986 85
February.....	199	1,000	1,789 52
March.....	219	1,000	1,968 91
April.....	187	1,300	1,683 22
May.....	160	1,500	1,441 93
June.....	139	1,500	1,253 56
July.....	128	1,000	1,152 64
August.....	122	1,000	1,098 82
September.....	118	1,600	1,065 64
October.....	128	1,600	1,155 34
November.....	137	1,000	1,233 38
December.....	152	500	1,365 68
Totals.....	1,917	.....	\$17,195 49

Coal at \$8.97 ton.

Electric Current Used for 1944, Calf Pasture Pumping Station.

MONTH.	Edison Engine Meters. Kilowatt Hours.	Edison Outside Meters. Kilowatt Hours.	Amount.
January.....	480,700	514,220	\$5,568 14
February.....	443,100	478,824	5,253 20
March.....	499,800	515,980	5,336 11
April.....	493,200	538,280	5,663 58
May.....	451,800	495,200	5,361 41
June.....	463,500	528,000	5,606 72
July.....	442,400	477,900	5,290 29
August.....	442,600	462,000	5,229 28
September.....	477,700	508,000	5,479 62
October.....	438,700	478,600	5,176 39
November.....	475,300	474,140	5,603 34
December.....	473,700	532,620	5,846 38
Totals.....	5,582,500	6,003,764	\$65,414 46

Credit due for heating switch house and received in bill.

Cost of Pumping for 1944, Calf Pasture Pumping Station.

ITEMS.	Cost.	Cost per Million Foot Gallons.
Labor.....	\$61,590 16	\$0.04201
Edison.....	65,414 46	.04462
Coal.....	17,195 49	.01173
Packing.....	97 85	.00006
Miscellaneous renewals and supplies.....	4,715 29	.00322
Oils and waste.....	475 62	.00032
Totals.....	\$149,488 87	\$0.10196
Labor at screens.....	\$10,741 57	\$0.00733

**Amount of Refuse Removed from Filth Hoist for 1944, Calf
Pasture Pumping Station.**

MONTH.	Cheeses.	Weight.* (Pounds).
January.....	92	8,740
February.....	57	5,415
March.....	73	†6,935
April.....	86	8,170
May.....	107	10,165
June.....	98	9,310
July.....	124	11,780
August.....	118	11,210
September.....	92	8,740
October.....	123	11,685
November.....	90	8,550
December.....	110	10,450
Totals.....	1,170	111,150

* Average 95 Pounds Each.

† Amount of refuse removed from Gate House.

Sewerage Works, January 1 to December 31, 1944.

LOCATION.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1944.
SOUTH BOSTON. E street, overflow in United States Government land and E street, about 600 feet north of West First street.	Oct. 25, 1943	Jan. 15, 1944	Angelo Grande.....	91.00	5' reinforced concrete pipe overflow. Minor drain. 2 manholes. 5' 4" wooden overflow removed.	\$6,719 15
EAST BOSTON. Maverick street, from westerly line of Jeffries street easterly.	Sept. 5, 1944	Sept. 12, 1944	Baker & Co.	68.00	Catch-basin drain. 4 catch-basins.	1,325 69
CHARLESTOWN. Spice street, from Cambridge street to end,	Aug. 31, 1944	Oct. 5, 1944	Angelo Grande.....	92.00	12" pipe, sewer.....	1,859 82
WEST ROXBURY. Washington street, Kershaw road and Swan street.	Sept. 22, 1943	Nov. 1, 1943	Baker & Co.	52.00	Catch-basin drain. 2 catch-basins. 3 manholes.	
Colborne Street brook, from Washington Heights avenue to 90 feet southerly.	May 9, 1944	Dec. 27, 1944	Department Labor.....	80.00	Final payments.....	806 62
Morey road, Vincent road, and outlet for Jeshurun road in Grove street.	Aug. 28, 1944	Sept. 2, 1944	Baker & Co.	103.85	18" pipe, surface drain.....	468 47
Weld street, from Church street to Park-lawn road, and Lennox road, from Orchard hill road to 200 feet northeasterly.	Sept. 5, 1944	Oct. 11, 1944	Martin J. Kelly Company, Inc.	173.00	15" pipe, surface drain. 10" pipe, minor drain. 9 catch-basins. 2 manholes.	4,590 04
Winslow street, from Perham street to Temple street.	Aug. 11, 1944	Aug. 16, 1944	Martin J. Kelly Company, Inc.	131.00	10" pipe, sanitary sewer. 10" pipe, surface drain. 1 manhole.	4,561 81
Southbourne road, from Eastland road to Hyde Park avenue.	Nov. 1, 1944	Nov. 30, 1944	D. Amico.....	131.00	10" pipe, surface drain. 10" pipe, minor drain. 4 catch-basins. 2 manholes.	1,200 23
				68.60		1,168 81
				58.00		

Sewerage Works, January 1 to December 31, 1944.—Concluded.

LOCATION.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1944.
DORCHESTER.						
Dorchester avenue, from Van Winkle street to Range road.	Nov. 15, 1943	Nov. 27, 1943	Baker & Co.	187.90	15" pipe, surface drain. 2 manholes.	329 48
Repairs to brick chimney at the Calf Pasture Pumping Station.	Oct. 9, 1943	Dec. 4, 1943	E. W. Brainard Company, Inc. ....	.....	Final payment.	258 00
Manchester street, from Idaho street to Groveand street.	Sept. 9, 1943	Oct. 15, 1943	Baker & Co. ....	.....	Final payment.	75 68
Wilkinson park and outlet in Hecla street, Dorchester, and Whifford street, from Ponlat street to Hibburn street, West Roxbury.	July 29, 1944	Sept. 30, 1944	A. Piatelli and C. DiMartino.	232.69 272.50 272.50	10" pipe, sewer 10" pipe, sanitary sewer 10" pipe, surface drain. 1 catch-basin. 5 manholes.	4,867 82
HYDE PARK.						
Austin street, Magee street, Sherrin street and Deforest street.	Dec. 2, 1943	Dec. 31, 1943	The Prompt Contractors, Inc.	123.80	Minor drain. 8 catch-basins.	1,348 41
Austin street, from 45 feet south of Marston street to 950 feet northerly.	.....	.....	Baker & Co. ....	.....	Job not started in 1944, preliminary engineering and advertising only.	65 69
ROXBURY.						
Kilmarnock street, from Boylston street to Queensberry street.	June 6, 1944	June 17, 1944	Baker & Co. ....	.....	1 catch-basin and 8 drop inlets constructed. 7 catch-basins and drop inlets dismantled and 9 catch-basins remodelled.	1,624 65
CITY PROPER.						
Demolition of existing wall and construction of new wall and guard watch tower at the Charles Street Jail.	Sept. 10, 1943	April 5, 1944	Daniel Cunningham Construction Company, Inc. ....	.....	Engineering and inspection on completion of watch tower and gate.	2,472 43
Green street, from Staniford street to Leverett street.	Nov. 26, 1944	Dec. 18, 1944	D'Amico. ....	.....	15" pipe, sewer. Minor drain. 143 linear feet 20" and 18" brick sewer removed.	221 40
Demolition of existing north wall and construction of new wall, Charles Street Jail.	Oct. 11, 1944	Not completed.	D'Amore Company.	100.00	Wall demolished and rebuilt.	765 10

Sewerage Works, 1944.

ACCOUNTS.	TOTALS.	LABOR.	COMPRESSORS, PUMPS AND TRUCKS.	TOOLS AND MATERIALS.	CONTRACTORS.	SUNDRIES.
Office and engineers' salaries.....	\$124,726 65	\$124,726 65			\$1 33	\$928 78
Office and engineers' expense	11,009 85	4,002 24	\$6,077 50		420 62	\$222 75
Miscellaneous	3,764 21	2,900 84	220 00			
Emergency Compensation Allotment	18,426 84	18,426 84				
Land-takings	100 00					100 00
New manholes, entire city	2,132 75	1,476 43	61 13		365 19	230 00
New catch-basins, South Boston	2,153 01	2,025 02	33 00		94 99	
New catch-basins, East Boston	585 75	566 51	7 50		11 74	
New catch-basins, Charlestown	1,801 61	1,713 12	30 00		58 49	
New catch-basins, Brighton	898 14	613 34	27 00		257 80	
New catch-basins, West Roxbury	1,854 56	935 82	7 50		338 35	572 89
New catch-basins, Dorchester	3,015 41	386 56	15 75		299 47	2,313 63
New catch-basins, Hyde Park	1,100 22	406 20	10 50		115 08	568 44
New catch-basins, Roxbury	11,591 05	10,238 60	267 00		356 38	721 48
New catch-basins, City Proper	9,502 52	8,849 64	133 50		162 28	357 10
Release sewers	231 44	231 44				
Stock	923 69				923 69	
Testing laboratory	9,571 09	9,194 41			194 11	
Holiday, etc	12,716 00	12,716 00				
Unadvertised jobs	2,201 75					
Total miscellaneous	\$218,306 54	\$199,409 66	\$6,890 38	\$3,599 52	\$7,307 14	\$1,099 84
Sewers built, entire city	31,729 30	10,497 35	18 00	1,311 63	22,780 32	182 00
Total	\$253,035 84	\$209,847 01	\$6,908 38	\$4,911 15	\$30,087 46	\$1,281 84

Sewerage Works, 1944.—Concluded.

ACCOUNTS.	Totals.	Labor.	Compressors, Pumps and Trucks.	Tools and Materials.	Contractors.	Sundries.
CREDITS.						
Sewerage service stock used on sewerage works.....	\$847 18	.....	.....	.....	\$847 18	
Sewerage works stock used on sewerage works.....	2,869 84	.....	.....	.....	2,869 84	
Sewerage service trucks.....	694 88	.....	.....	\$694 88		
Debit transfer to water service.....	2,200 00	\$6,611 90	\$2,200 00			
Totals.....	\$246,423 94	\$207,647 01	\$6,213 50	\$1,194 13	\$30,087 46	\$1,281 84
DEBITS.						
Sewerage service pay rolls paid by sewerage works.....	\$62,134 52	.....	.....	.....	.....
Sewerage service materials paid by service works.....	13,716 37	.....	.....	.....	.....
Debit transfers from sewerage service (trucks)	354 00	76,204 89	57,259 34	354 00	18,591 55	
Total sewerage works expenditures, 1944.....	\$322,628 83	\$264,906 35	\$6,567 50	\$19,785 68	\$30,087 46	\$1,281 84

Civilian Precautionary Appropriation ("I" Item), 1944.

	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1944.
	Mar. 31, 1944	Dec. 31, 1944	Civilian Precautionary Appropriation.		Tools and materials.....	\$295 00
Total expenditures, 1944.....						\$295 00

Financial Statement from January 1, 1944, to December 31, 1944.

	Balance on Hand January 1, 1944.	Appropriations and Revenue, 1944.	Transfers from Net.	Transfers to Net.	Total Credits December 31, 1944.	Total Expenditures, 1944.	Unexpended.
Sewer Service.....	\$370,039 00	\$14,000 00	\$356,039 00	\$349,291 87	\$6,747 13		
Sewerage Works, Non-Revenue.....	3175,580 02	200,000 00	375,580 02	322,628 83	52,591 19		
Sewerage Works, Revenue.....	2,759 02					2,759 02	
Civilian Precautionary Appropriation ("I").....	5,589 21		5,294 21	5,589 21	295 00		—

MAINTENANCE EXPENDITURES FROM JANUARY 1, 1944, TO DECEMBER 31, 1944.

SEWER DIVISION.

Improved Sewerage.

Pumping Station, Calf Pasture, inside	\$92,215	79
Pumping Station, Calf Pasture, outside	577	37
Pumping Station, Calf Pasture, engines	36,042	62
Pumping Station, Calf Pasture, boilers	29,996	60
Pumping Station, Union Park Street	12,757	28
Pumping Station, Summer Street	3,991	81
Moon Island	24,721	00
Main and intercepting sewers	25,809	83

		\$226,112
		30

Maintenance — Regular.

Automobiles	\$16,237	42
Cleaning catch-basins	45,505	25
Cleaning sewers	36,997	08
Fuel and oil	1,118	67
Hardware and tools	1,040	90
House connections	16,389	60
Maintenance, Stony Brook	847	75
Office and engineers' expense	1,938	14
Office and engineers' salaries	5,510	92
Stock	2,287	51
Yard and locker	31,189	99

		159,063
		23

Maintenance — Repairs.

Repair department buildings	\$1,213	77
Repair catch-basins, South Boston		-----
Repair catch-basins, East Boston	49	50
Repair catch-basins, Charlestown	50	00
Repair catch-basins, Brighton	570	52
Repair catch-basins, West Roxbury	1,016	88
Repair catch-basins, Dorchester	4,175	36
Repair catch-basins, Hyde Park	201	72
Repair catch-basins, Roxbury	402	65
Repair catch-basins, City Proper	1,564	57
Repair sewers, South Boston		-----
Repair sewers, East Boston	356	13
Repair sewers, Charlestown		-----
Repair sewers, Brighton	194	40
Repair sewers, West Roxbury	1,922	29
Repair sewers, Dorchester	1,404	08
Repair sewers, Hyde Park	44	41
Repair sewers, Roxbury	278	88
Repair sewers, City Proper	704	78

		14,149
		94

Carried forward \$399,325 47

Maintenance — Miscellaneous.

<i>Brought forward</i>	.	.	.	.	.	\$399,325	47
Miscellaneous	.	.	.	.	\$19,261	09	
Back Bay Fens	.	.	.	.	218	86	
Telephones	.	.	.	.	648	62	
Wearing apparel (rubber goods)	.	.	.	.	122	70	
Pensions and annuities	.	.	.	.	6,148	04	
Holidays, vacations, sickness and time allowed,	.	.	.	.	20,700	05	
Civilian defense	.	.	.	.	—
							47,099
Total	.	.	.	.	.	\$446,424	83

CREDITS.

Cost of trucks and cleaning machines used on maintenance	.	.	.	.	\$18,399	56	
Cost of maintenance stock used on maintenance	.	.	.	.	707	25	
Cost of sewerage works stock used on maintenance	.	.	.	.	1,821	26	
Cost of maintenance materials paid for by sewerage works	.	.	.	.	13,716	37	
Cost of maintenance pay rolls paid for by sewerage works	.	.	.	.	62,134	52	
Debit transfer to sewerage works (trucks on sewer works)	.	.	.	.	354	00	
							97,132
Total expenditures	.	.	.	.	.	\$349,291	87

Sewer Division — Maintenance Expenditures, Details, 1944.

ACCOUNTS.	TOTALS.	Labor.	Repairs.	MOTOR VEHICLES, CLEANING MACHINES, Etc.	TAXES.	CONTRACTORS.	LIGHT, FUEL, POWER.	MATERIALS AND SUPPLIES.	Equipment, Tools.	MISCELLANEOUS.
Automobiles.....	\$16,237 42	\$10 50	\$9,267 06				\$162 93	\$5,003 61	\$893 82	\$824 80
Cleaning catch-basins,	45,505 25	35,461 43		\$10,024 32					Fees.....	73 00
Cleaning sewers.....	36,997 08	33,125 90	31 55	3,771 93			45 20		Sundries.....	1 40
Fuel and oil.....	1,118 67								Sundries.....	22 50
Hardware and tools.....	1,040 90			13 15					Kerosene.....	22 50
House connections.....	16,389 60	'16,345 93		31 88					Coal.....	15 80
Maintenance, Stony Brook.....	847 75			52 00						1,102 87
Office and engineers' expense.....	1,938 14	196 98	30 00	81 63			38 74			
Office and engineers' salaries.....	5,510 92	5,510 92								
Stock.....	2,287 51						10 60	2,276 91		
Yard and locker.....	31,189 99	'30,808 73					146 08	156 34	Sundries.....	78 84
Miscellaneous.....	19,261 09	15,278 12		1,876 23			\$35 90	26 79	Transportation.....	685 80
Back Bay Fens.....	218 86		94 50						Meals.....	21 75
Telephones.....	648 62								Telephones.....	379 97
Rubber goods.....	122 70								Express.....	58
									Postage.....	20 95
									Sundries.....	935 00
									Telephone service..	648 62
									6 hats.....	6 hats.....
									6 coats.....	9 00
									4 pairs boots.....	34 50
									6 1/2 dozen pairs.....	17 20
									6 gloves.....	62 00

Pensions and annuities,	6,148 04	6,148 04				
Holidays, vacations, etc.,	20,700 05	20,700 05				
Repair Department	1,213 77	975 16	19 88			
Repair buildings.....						218 73
Repair catch-basins, South Boston.....						
Repair catch-basins, East Boston.....						
Repair catch-basins, Charlestown.....	50 00					
Repair catch-basins, Brighton.....	570 52	366 86				
Repair catch-basins, West Roxbury.....	1,016 88	649 49				
Repair catch-basins, Dorchester.....	4,175 36	3,145 45				
Repair catch-basins, Hyde Park.....	201 72	158 00				
Repair catch-basins, Roxbury.....	402 65	340 30				
Repair catch-basins, City Proper.....	1,504 57	1,547 01				
Repair sewers, South Boston.....						
Repair sewers, East Boston.....						
Repair sewers, Charles- town.....						
Repair sewers, Brighton.....	194 40	115 75				
Repair sewers, West Roxbury.....	1,922 29	1,430 79				
Repair sewers, Dor- chester.....	1,404 08	1,115 22				
<i>Carried forward...</i>	\$215,407 56	\$171,659 12	\$9,341 76	\$16,249 65		
						\$6,520 97
						\$4,225 38
						\$6,716 41

Sewer Division—Maintenance Expenditures, Details, 1944.—Concluded.

ACCOUNTS.	Totals.	Labor.	Repairs.	Motor Vehicles, Cleaning Machines, Etc.	Taxes.	Contractors.	Light, Fuel, Power.	Materials and Supplies.	Equipment, Tools.	Miscellaneous.
<i>Brought forward...</i>	\$206,162 59	\$164,476 85	\$9,341 76	\$15,834 99	.....	\$35 90	\$433 37	\$5,293 37	\$4,225 38	\$6,520 97
Repair sewers, Hyde Park.....	44 41	8 00	.....	.....	.....	.....	.....	.....	36 41	
Repair sewers, Roxbury.....	278 88	259 12	.....	.....	.....	.....	.....	.....	19 76	
Repair sewers, City Proper	704 78	675 91	.....	.....	.....	.....	.....	.....	28 87	
Total — Outside Improved sewers	\$220,312 53	\$175,263 91	\$9,341 76	\$16,488 17	.....	\$742 03	\$433 37	\$7,296 94	\$4,225 38	\$6,520 97
Total — Improved sewers	226,112 30	121,166 94	7,145 95	3,189 02	\$1,215 00	.....	83,010 48	9,708 24	.....	676 67
<i>Totals.....</i>	\$446,424 83	\$296,430 85	\$16,487 71	\$19,677 19	\$1,215 00	\$742 03	\$83,443 85	\$17,005 18	\$4,225 38	\$7,197 64
Credits*.....	97,132 96	62,134 52	16,285 47	919 14	.....	.....	184 00	15,092 25	919 97	1,597 61
<i>Totals.....</i>	\$349,291 87	\$234,296 33	\$292 24	\$18,758 05	\$1,215 00	\$742 03	\$83,259 85	\$1,912 93	\$3,305 41	\$5,600 03

* 200-14

Credits:	
Trucks, etc., used on maintenance.....	\$18,399 56
Maintenance stock used on maintenance.....	707 25
Sewerage works stock used on maintenance.....	1,821 26
Maintenance materials paid by sewerage works.....	13,716 37
Maintenance pay rolls paid for sewerage works.....	62,134 52
Debit transfers to sewerage works (trucks),	354 00
Total.....	\$97,132 96

Sewer Division — Maintenance Expenditures, Details, 1944.

ACCOUNTS,	Totals,	Labor.	Contractors.	Trucks and Machinery,	Repairs.	Grease, Oil, Gasoline and Kerosene.	Light, Heat and Power.	Tools, Materials and Instruments.	Taxes.	Miscellaneous.
Pumping Stations:										
Calf Pasture, inside.....	\$92,215.79	\$24,297.08	.....	\$36.00	\$248.00	\$33.70	\$65,414.46	\$1,877.93	.....	\$308.62
Calf Pasture, outside.....	577.37	252.14	.....	315.14	.....	.....	.....	10.09	.....	97.58
Calf Pasture, engines.....	36,042.62	28,183.53	.....	.....	4,567.33	487.08	.....	2,707.10	.....	9.26
Calf Pasture, boilers.....	29,996.60	15,929.56	.....	265.00	527.40	.....	12,679.94	585.44	.....	142.94
Union Park Street.....	12,757.28	8,365.46	.....	.....	1,138.76	35.99	2,164.68	909.45	.....	.....
Summer Street.....	3,991.81	1,645.09	.....	.....	374.52	.....	1,930.56	41.64	.....	.....
Moon Island.....	24,721.00	21,563.47	.....	156.00	211.72	439.22	820.84	196.48	\$1,215.00	118.27
Main and intercepting sewers, .	25,809.83	20,930.61	.....	2,416.83	78.22	.....	.....	2,384.12	.....	.....
Totals.....	\$226,112.30	\$121,166.94	.....	\$3,189.02	\$7,145.95	\$995.99	\$83,010.48	\$8,712.25	\$1,215.00	\$676.67

Recapitulation, Maintenance, Detail, 1944.

ACCOUNTS.	Improved Sewers.	Outside Improved Sewers.	Total.
Labor.....	\$121,166.94	\$175,263.91	\$296,430.85
Contractors.....	.....	742.03	742.03
Trucks, cleaning machines, etc.....	3,189.02	16,488.17	19,677.19
Repairs.....	7,145.95	9,341.76	16,487.71
Grease, oil and gasoline.....	995.99	.....	995.99
Light, heat and power.....	83,010.48	433.37	83,443.85
Materials and supplies.....	8,712.25	7,296.94	16,009.19
Equipment and tools.....	.....	4,225.38	4,225.38
Storage.....	.....	824.80	824.80
Telephones.....	.....	648.62	648.62
Taxes.....	1,215.00	.....	1,215.00
Sundries.....	676.67	4,974.55	5,651.22
Fees.....	.....	73.00	73.00
Totals.....	\$226,112.30	\$220,312.53	\$446,424.83
CREDITS.	Improved Sewers.	Outside Improved Sewers.	
Trucks, etc., used on maintenance.....	\$3,189.02	\$15,210.54	
Maintenance stock used on maintenance.....	10.47	696.78	
Sewerage works stock used on maintenance.....	.....	1,821.26	
Maintenance materials paid by sewerage works.....	.....	13,716.37	
Maintenance pay rolls paid by sewerage works.....	.....	62,134.52	
Debit transferred to sewerage works (trucks).....	.....	354.00	
Totals.....	\$3,199.49	\$93,933.47	\$93,933.47
			\$97,132.96
			\$222,912.81
			\$126,379.06
			\$349,291.87

APPENDIX E.

REPORT OF THE DIVISION ENGINEER OF
THE WATER DIVISION.

BOSTON, January 2, 1945.

To the Commissioner of Public Works.

DEAR SIR,— I respectfully submit the following report of the activities, operations and expenditures of the Water Division for the year ending December 31, 1944.

The department was able to cope with the increased demands for water service to government agencies and private manufacturing plants engaged in war work without extension of additional water mains or the relaying of old mains.

In order to cooperate with the United States Government in the conservation of critical material, the work of laying and relaying water mains has been severely curtailed so that but very little work of this nature was performed during the year.

365 linear feet of water mains were extended, this work being performed to provide facilities to new housing areas developed in connection with the war work. 374 linear feet of pipe were relaid due to defective water mains.

ENGINEERING BRANCH.

This branch of the Water Division was engaged principally in supervising the installation of additional service pipes to premises occupied by government forces, occasioned by the war.

Due to the decrease in the personnel, and the difficulty of replacing employees during the war, the department has engaged the services of contractors to assist the departmental forces in the City Proper, Dorchester and West Roxbury districts.

DISTRIBUTION BRANCH.

The regular work of the Distribution Branch, consisting of installation of new services and fire pipes,

repairing of leaks, caring for complaints, shutting off and letting on water, freeing of stoppages in pipes, etc., was performed in such a manner and at such periods as to cause minimum delay and inconvenience to applicants for water, water takers and the general public.

The machine shop and plumbing shop were forced to handle all the drilling and connecting of services in addition to the regular work carried on in these shops, such as the machining and assembling of gates, valves and hydrants, and the department assisted the other branches of the Public Works Department in performing special jobs.

In order to check the leakage of water, a Pitometer Survey of East Boston and parts of Roxbury and Dorchester, known as Pitometer Sections 5, 6 and 14, was completed in 1944, and the contractor was paid for the actual leakage found, not to exceed \$17,000.

BUSINESS OFFICE.

The campaign inaugurated in 1938 to enforce the payment of outstanding water bills is still in force. Customers in arrears are notified that the flow of water will be reduced, but yet enough water is left on the premises to provide a minimum for health and sanitary requirements. As a result of this campaign the Water Division ended the year 1944 with a surplus of \$1,350,-224.10, this surplus being due mainly to the collection of bills past due, and the increased consumption of water in government properties and war plants.

Main pipe petitions received	1
Domestic service applications	94
Fire pipe applications	9
Special meter tests	304
Hydrant permits issued	20
Repair deposits received	104
Miscellaneous deposits	74

APPROPRIATIONS, EXPENDITURES AND REVENUE.

Amount appropriated	\$1,095,891 00
Amount expended	1,041,897 85
	<hr/>
Balance	\$53,993 15
	<hr/>
Amount of money collected during the year	\$5,527,886 19
Amount expended from all sources	\$4,177,662 09

The Metropolitan assessment for 1944 amounted to \$2,974,083.69, an increase of \$294,918.37 over the assessment for 1930.

Total amount billed in 1944	\$5,655,497 65
Total amount collected for 1944, bills as of December 31, 1944	\$4,455,844 04
Total amount abated for 1944, bills as of December 31, 1944	\$59,217 72
Total amount collected in 1944 on bills rendered prior to 1944	\$756,423 77

This department contacts the water consumers very frequently throughout the year, and the conduct of the office has been such that I believe a spirit of good will between the customers and the employees has been brought about which is beneficial to the consumer and the City.

Another service to the consumer was inaugurated this year, namely, the issuance of a statement of outstanding water bills. The appreciation of the customers is shown by the fact that the number of liens placed on premises this year has been reduced more than fifty (50) per cent.

Respectfully submitted,

D. M. SULLIVAN,
Division Engineer.

Table No. 1. Statement of Work Done During the Year 1944.

MAKE.	Applied.	Discontinued.	METERS CHANGED.		Tested in Shop.	Repaired in Service.	Repaired in Shops.	Resets.
			Out.	In.				
Hersey Disc.....	59	49	1,739	1,858	3,705	3,938	2,317	315
Hersey Detector.....	3	.....	4	7	19	284	15	
Hersey Compound.....	.....	.....	1	1	10	115	9	
Hersey Rotary.....	.....	.....	1	.....	4	.....	4	
Worthington Disc.....	2	5	264	128	340	201	71	35
Watch Dog.....	30	14	1,041	1,288	2,169	347	1,114	172
King.....	.....	3	218	40	267	277	46	3
Federal.....	.....	.....	15	6	20	66	5	
American.....	.....	.....	33	4	17	53	17	
Lambert.....	.....	.....	3	1	11	7	8	
Crown.....	.....	.....	8	.....	10	.....	2	
Trident.....	1	.....	4	1	7	.....	3	
Arctic.....	.....	1	4	6	17	50	12	
Nash.....	.....	.....	7	2	9	12	2	
Totals.....	95	72	3,342	3,342	2,605	4,350	3,625	525

Table No. 2. Meters in Service December 31, 1944.

MAKE.	DIAMETER IN INCHES.											Total.
	$\frac{1}{8}$	$\frac{1}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	10	12	
Hersey Disc.....	58,370	3,067	1,927	1,034	583	170	137	34	1	.....	.....	65,323
Hersey Detector.....	.....	.....	.....	.....	.....	4	43	67	34	24	9	181
Hersey Compound.....	.....	.....	.....	.....	5	66	66	27	.....	.....	.....	164
Hersey Rotary.....	321	219	.....	.....	.....	.....	.....	.....	.....	.....	.....	540
Worthington Disc.....	4,769	19	26	31	40	12	.....	.....	.....	.....	.....	4,897
Watch Dog.....	22,083	1,076	948	700	442	395	89	.....	.....	.....	.....	25,733
King.....	2,157	182	.....	3	26	.....	.....	.....	.....	.....	.....	2,368
American.....	498	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	527
Federal.....	406	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	406
Crown.....	163	290	22	43	64	19	.....	4	.....	.....	.....	605
Nash.....	32	222	4	.....	5	.....	.....	.....	.....	.....	.....	263
Lambert.....	178	60	40	.....	.....	.....	.....	.....	.....	.....	.....	278
Arctic.....	1	.....	.....	27	23	16	11	.....	.....	.....	.....	78
Keystone.....	126	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	131
Empire.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Trident.....	101	.....	6	1	11	21	12	1	1	2	.....	156
Totals.....	89,216	5,169	2,973	1,839	1,199	703	358	133	36	26	9	101,661

Table No. 3. Meters in Shop December 31, 1944.

MAKE.	DIAMETER IN INCHES.											Total.
	$\frac{1}{8}$	$\frac{1}{4}$	1	$1\frac{1}{2}$	2	3	4	6	10	12	.....
Hersey, Disc.....	186	48	48	6	1	2	5	2	1	1	.....	300
Hersey Detector.....	.....	.....	.....	.....	.....	.....	2	3	.....	.....	.....	5
Worthington Disc.....	25	.....	.....	.....	.....	4	1	.....	.....	.....	.....	30
Watch Dog.....	40	31	24	2	.....	3	2	.....	.....	.....	.....	103
Arctic.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	3
King.....	56	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	63
Federal.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Totals.....	312	86	72	9	4	9	10	5	1	1	.....	509

Table No. 4. Meters Repaired and Rebuilt at Factory.

MAKE.	DIAMETER IN INCHES.			Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	
Hersey Disc.....	1,152	100	65	* 1,317
MAKE.	3	12		Total.
Hersey Disc.....	1	.....	.....	1
Hersey Detector.....	.....	2	.....	2
Totals.....	1	2	.....	† 3

* Repaired and rebuilt at the factory.

† Purchased new in 1944.

Table No. 5. Meters Reset.

MAKE.	DIAMETER IN INCHES.						Total.	Occupied.	Connection Pieces.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3			
Hersey Disc.....	281	23	5	4	2	.....	315	70	245
King.....	3	.....	.....	.....	.....	.....	3	1	2
Watch Dog.....	157	7	4	2	1	1	172	37	135
Worthington Disc.....	31	4	.....	.....	.....	.....	35	9	26
Totals.....	472	34	9	6	3	1	525	117	408

Table No. 6A. Meters Changed in 1944. Meters Taken Out.

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	12		
Hersey Disc.....	1,377	173	104	52	28	....	3	1	1	1,739	
Hersey Detector.....	.....	.....	.....	.....	.....	.....	3	1	.....	4	
Hersey Compound.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	
Hersey Rotary.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	
Worthington Disc.....	261	2	1	.....	.....	.....	.....	.....	.....	264	
Watch Dog.....	846	39	98	30	14	12	2	.....	.....	1,041	
King.....	200	7	5	5	1	.....	.....	.....	.....	218	
Arctic.....	.....	.....	.....	.....	1	2	1	.....	.....	4	
Nash.....	1	2	2	2	.....	.....	.....	.....	.....	7	
Lambert.....	1	.....	1	.....	1	.....	.....	.....	.....	3	
Crown.....	3	.....	1	2	.....	.....	.....	2	.....	8	
Federal.....	15	.....	.....	.....	.....	.....	.....	.....	.....	15	
American.....	20	13	.....	.....	.....	.....	.....	.....	.....	33	
Trident.....	2	.....	.....	.....	.....	2	.....	.....	.....	4	
Totals.....	2,726	236	213	91	45	16	10	4	1	3,342	

Table No. 6B. Meters Changed in 1944. Meters Put In.

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	12		
Hersey Disc.....	1,447	226	78	61	39	3	2	2	....	1,858	
Hersey Detector.....	.....	.....	.....	.....	.....	.....	2	4	1	7	
Hersey Compound.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	
Hersey Rotary.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Worthington Disc.....	120	.....	4	3	1	.....	.....	.....	.....	128	
Watch Dog.....	1,035	74	127	24	16	11	1	.....	.....	1,288	
King.....	35	3	2	.....	.....	.....	0	.....	.....	40	
Arctic.....	.....	.....	.....	2	1	1	2	.....	.....	6	
Nash.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	
Lambert.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	
Crown.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Federal.....	6	.....	.....	.....	.....	.....	.....	.....	.....	6	
American.....	.....	4	.....	.....	.....	.....	.....	.....	.....	4	
Trident.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	
Totals.....	2,643	308	211	92	57	16	8	6	1	3,342	

Table No. 7. Causes for Meters Changed.

MAKE.	Department Test.	Do Not Register.	No Force.	Enlarged Meter.	Coupling Leak.	Clock Broken.	Spindle Leak.	Set Backwards.	Frost.	Total.
Hersey Disc.....	1,533	111	46	29	....	15	5	....	....	1,739
Hersey Detector.....	3	....	....	1	....	....	....	....	....	4
Hersey Compound.....	1	....	....	....	....	....	....	....	....	1
Hersey Rotary.....	....	1	....	....	....	....	....	....	....	1
Worthington Disc.....	18	203	15	7	16	5	....	....	....	264
Watch Dog.....	93	746	16	7	95	....	84	....	....	1,041
King.....	18	37	....	5	5	2	40	....	111	218
Arctic.....	1	1	1	1	....	....	....	....	....	4
Nash.....	....	2	2	....	2	1	....	....	....	7
Lambert.....	....	1	....	....	....	1	....	....	1	3
Crown.....	2	2	1	....	1	2	....	....	....	8
Federal.....	3	12	....	....	....	....	....	....	....	15
American.....	6	15	3	2	4	2	....	....	1	33
Trident.....	1	1	....	....	....	1	....	....	1	4
Totals.....	146	2,554	149	69	152	14	139	5	114	3,342

Table No. 8. Meters Applied in 1944.

MAKE.	DIAMETER IN INCHES.											Total.
	$\frac{1}{8}$	$\frac{3}{8}$	1	$1\frac{1}{2}$	2	3	4	6	8	12	....
Hersey Disc.....	41	1	....	6	6	2	3	....	....	....	....	59
Hersey Detector.....	....	....	....	....	....	....	....	1	1	1	....	3
Worthington Disc.....	2	....	....	....	....	....	....	....	....	....	....	2
Watch Dog.....	8	3	4	2	9	3	1	....	....	....	....	30
Trident.....	....	....	....	....	....	1	....	....	....	....	....	1
Totals.....	51	4	4	8	15	6	4	1	1	1	....	95

90 Meters applied on new services.
5 Meters applied on old services.

95 Total meters applied in 1944.

Table No. 9. Meters Discontinued in Year 1944.

MAKE.	DIAMETER IN INCHES.									Total.	Permanently Discontinued.	Vacancy.	Connection Pieces.
	1	1½	2	3	4	6	8						
Hersey Disc	260	13	14	6	10	1	.....	1	.....	305	49	84	172
Hersey Detector.....								1	1	2	.....	1	1
Hersey Compound.....				1						1	.....	1	
Worthington Disc.....	37									37	5	9	23
Watch Dog.....	91	3	6	2	8	2	1	.....	.....	113	14	40	59
American.....	1									1	.....		1
Arctic.....						1				1	1		
Federal	3									3	.....		3
Crown.....		1								1	.....	1	
Keystone.....			1							1	.....		1
King.....	30									30	3	6	21
Lambert.....	2									2	.....		2
Totals.....	424	17	21	8	19	4	1	2	1	497	72	142	233

Table No. 10. Meters Repaired in Service in 1944.

MAKE.	Defaced and Broken Clocks.	Spindle Leaks.	Coupling Leaks.	Broken Counter Boxes.	Examinations.	Total.
Hersey Disc.....	988	842	831	56	221	2,938
Worthington Disc.....	46	29	38	64	24	201
Watch Dog.....	51	187	54	20	35	347
King.....	32	114	67	9	55	277
American.....	15	.....	19	10	9	53
Federal.....	14	17	21	8	6	66
Arctic.....	9	13	7	5	16	50
Nash.....	1	.....	4	2	5	12
Lambert.....	2	.....	1	1	3	7
Hersey Detector.....	96	54	.....	33	101	284
Hersey Compound.....	53	14	.....	18	30	115
Totals.....	1,307	1,270	1,042	226	505	4,350

Table No. 1.
*Showing Length of Water Pipes and Connections Owned and Operated by Public Works Department, Water Division, Water Service, and
 Number of Valves in Same, December 31, 1944.*

	Diameter of Pipe in Inches.											Total.						
	48	42	40	36	30	24	20	16	14	12	10							
Length owned and operated December 31, 1943*	55,585	16,191	9,599	30,238	75,846	89,324	108,131	365,765	285	1,832,400	451,004	1,195,510	969,391	62,442	11,486	6,509	5,279,713	
Gate valves in same.	26	5	4	5	31	50	75	71	762	14	5,180	1,577	4,453	3,154	546	19	16	15,983
Air valves in same.	60	5	10	35	113	84	53	101	64	1	...	5	203	141	66	1	14	540
Blow-offs in same.	11	5	6	11	33	37	52	76	200	...	40	427	74	3	11	5	5	863
Length laid and re-laid during 1944*	...	...	...	...	...	...	...	...	2	...	...	2	...	...	...	...	...	740
Gate valves in same.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
Air valves in same.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Blow-offs in same.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Length abandoned during 1944*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gate valves in same.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Air valves in same.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Blow-offs in same.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Length owned and operated December 31, 1944, including high pressure service*	55,585	16,191	9,599	30,238	75,843	89,285	108,131	365,804	285	1,832,400	451,004	1,195,537	969,329	62,442	11,486	6,509	5,280,078	
Gate valves in same.	26	5	4	5	31	50	75	71	762	14	5,184	1,577	4,455	3,157	546	19	18	15,994
Air valves in same.	60	5	10	35	113	84	53	101	64	1	...	5	203	141	66	1	14	546
Blow-offs in same.	11	5	6	11	33	37	52	76	166	40	31,756	...	...	...	...	10	5	862
High pressure fire service	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	98,849

* Feet.

1,000.14 miles in system, including high pressure fire system.
 18,721 miles in high pressure system.

Financial Transactions, Water Service, 1944.

Receipts:		
Water rates and services	\$5,476,339 38	
Tax titles — water	51,546 81	
	<hr/>	
		\$5,527,886 19
Expenditures from revenue:		
Current expenses and extension	\$1,041,897 85	
Collecting Department	107,622 69	
Auditing Department	600 00	
Refunded water rates	228 00	
Refunded tax titles	16 56	
Metropolitan assessment	2,974,083 69	
	<hr/>	
		4,124,449 59
Expenditures from debt account:		
Boston water debt	\$41,000 00	
Interest on loans	12,212 50	
	<hr/>	
		53,212 50
Surplus of receipts over expenditures		
	<hr/>	
		\$1,350,224 10
Loan Account:		
Balance outstanding January 1, 1944	\$418,000 00	
Paid 1944 on Boston water debt	41,000 00	
	<hr/>	
Balance outstanding December 31, 1944		
	<hr/>	
		\$377,000 00
Construction account:		
Extension of mains (from revenue)		
Cost of construction December 31, 1944		\$9,185 63
Cost of construction December 31, 1943		
	<hr/>	
Increase in plant cost during year 1944		
	<hr/>	
		\$9,185 63
Cost of existing works December 31, 1944:		
Pipe, yards and buildings *	\$84,332 16	
Engineering expense	57,873 58	
Distribution system †	24,214,402 32	
Hyde Park water works	175,000 00	
	<hr/>	
High pressure fire system ‡		\$24,531,608 06
		2,293,316 75
	<hr/>	
Total cost		\$26,824,924 81
	<hr/>	

*\$10,500 deducted on account of abolishment of Charlestown yard.

† Includes \$155,023.89 expended on high pressure fire system in 1925, 1926, 1931, 1932, 1933.

‡ \$33,850.96 deducted from cost of high pressure fire system on account of abandonment of pumping station, Battery street.

Shutting Off and Turning On Water in 1944.

Shut off for repairs	4,355
Let on for repairs	3,887
<hr/>	<hr/>
Total off and on for repairs	8,242
Shut off for vacancy	1,050
Let on for vacancy	657
<hr/>	<hr/>
Total off and on for vacancy	1,707
Let on for the first time	37
Shut off for non-payment	20
Let on for non-payment	26
<hr/>	<hr/>
Total off and on for non-payment	46
Shut off for waste	4
Total shut-off for all causes	5,429
Total let-on for all causes	4,607
<hr/>	<hr/>
Total off and on for all causes	<u>10,036</u>

Table No. III.

WATERWORKS STATISTICS, CITY OF BOSTON.
FOR THE FISCAL YEAR ENDING DECEMBER 31, 1944.
DISTRIBUTION.

Mains.

Kind of pipe: Cast iron, wrought iron, steel.
Size: 2-inch to 48-inch.
Extended, miles, .195.
Size enlarged, miles, none.
Total miles now in use, 1,000.14.
Public hydrants added, 1.
Public hydrants now in use, 12,242.
Stop gates added, 11.
Stop gates now in use, 15,994.
Stop gates smaller than 4-inch, 37.
Number of blow-offs, 862.
Range of pressure on mains, 30 to 90 pounds.

Services

Kind of pipe and size; Lead and lead-lined, $\frac{1}{2}$ -inch; cast iron, 2-inch to 16-inch; wrought iron and cement lined, $\frac{3}{4}$ -inch to 2-inch; brass and copper, $\frac{5}{8}$ -inch to $2\frac{1}{2}$ -inch.

Cost of Replacement of Main Pipe, 1944.

STREET.	Location.	District.	Fee, Size, (Inches).	Materials.	Labor.	Inspec- tion.	Total Cost.	Fee, Size, (Inches).	Remarks.
Winthrop Bridge, Saratoga street.	Between Boston and Winthrop.	Winthrop.	12 200	\$511 99	\$507 00	\$36 80	\$1,055 79	12 200	
March avenue.....	Between Bellevue and Park streets.	West Roxbury.	8 136	411 22	461 46	16 44	889 12	8 136	
High street.....	At Oliver street.....	Boston.	{ 16 30 16 8 }	411 63	33 00	3 30	447 93	{ 24 30 24 8 }	
			{ 8 136 16 38 12 200 }					{ 8 136 12 200 24 38 }	
	Totals.....		374	\$1,334 84	\$1,001 46	\$56 54	\$2,392 84	374	

Cost of Extension of Main Pipe, 1944.

STREET.	Location.	District.	Size. (Inches).	Feet.	Materials.	Labor.	Inspec- tion.	Total Cost.	Remarks.
Cenacle grounds.....	Between Greymere and Dickinson roads.	Brighton.	{ 8 6 10	250 } 8 41	\$725 79	\$958 00	\$58 88	\$1,742 67	
Greymere road.....	At Cenacle grounds.....	Brighton.	8	221 48	104 85	44 16	370 49		
Northern avenue.....	Between viaduct and D street.....	South Boston.	6	64	231 78	188 00	48 00	467 78	
			{ 6 8	74 291 }					
	Totals.....		....	365	\$1,179 05	\$1,250 85	\$151 04	\$2,580 94	

APPENDIX F.

REPORT OF BOSTON AND CAMBRIDGE
BRIDGES COMMISSION.

BOSTON, January 2, 1945.

To the Honorable the Mayor.

SIR,—As Commissioner for the City of Boston, I respectfully submit herewith the annual report of the Boston and Cambridge Bridges Commission for the year ending December 31, 1944.

The Commission is composed of two members, one appointed by the Mayor of the City of Boston and the other by the Mayor of the City of Cambridge, under provisions of chapter 467, Acts of 1898.

The Commission has charge of the maintenance of the following-named bridges between Boston and Cambridge:

Cottage Farm, Longfellow and Prison Point.

As there is no separate appropriation for the City of Boston's portion of the expenses of this Commission, the same is taken from the appropriation for the Bridge and Ferry Division, Bridge Service. The amount expended during the fiscal year ending December 31, 1944, was \$4,414.57.

Respectfully submitted,

WILLIAM T. MORRISSEY,
Commissioner for the City of Boston.

Boston and Cambridge Bridges. Expenditures for the Year Ending December 31, 1944.

Being the Portion Paid by the City of Boston, Which Is One Half of the Total Expenditure.

	Administration.	Cottage Farm Bridge.	Longfellow Bridge.	Prison Point Bridge.	Total.
Salaries.....	\$50 00		\$1,530 00		\$1,580 00
Inspection		\$190 00	200 00	\$210 00	600 00
Light.....		774 13	1,261 51		2,035 64
Rent			39 00		39 00
Printing and stationery.	8 53				8 53
Repairs.....		51 60	7 50		59 10
Supplies		17 83	74 47		92 30
Totals.....	\$58 53	\$1,033 56	\$3,112 48	\$210 00	\$4,414 57

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